1044b UIC - EAST POPLAR OIL FIELD ENFORCEMENT CASE SDWA 1431 Folder ID: 13677 1976 Privileged

Release in Fill

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Region 8

## PRODUCTION DEFT ELLE COPY

EAST POPLAR UNIT WELL NO. 76

ROOSEVELT COUNTY, MONTANA

MURPHY CORPORATION--GFERATOR

# EAST POPLAR UNIT WELL NO. 76 ROOSEVELT COUNTY, MONTANA MURPHY CORFORATION—OPERATOR

HISTORYPage	1
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MUD PROGRAM SUMMARYPage	7
DRILLING BIT & TOTCO RECORDS & DIAMOND CORE BIT RECORDSPage	8
SAMPLE DESCRIPTIONPage	0

## HELL HISTORY

REGEIVED

AUG 23 1956

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA

WELL NO .:

East Poplar Unit No. 76

LOCATION:

NE NE Section 1, Township 28 North, Range 51 East

ELEVATION: ..

2146° Ground - 2158° K.B.

CONTRACTOR:

Zach Brooks Drilling Company

SPUDDED:

3:00 P.M., Hay 5, 1956

COMPLETED:

May 29, 1956

TOTAL DEPTH:

5917° Schlumberger equals 5916° Iriller

CASING:

9-5/8" @ 1083.16° with 400 sacks cement

5-1/2" @ 5916,00° with 300 sacks cement

TUBING:

2-3/8" @ 5737,73

PERFORATIONS:

"B=1" Zone - 5736?-57419

PACKER:

Baker Model "D" production packer at 5720°

ACID TREATMENT:

"B-I" Zone - 1000 gallons etching acid

INITIAL POTENTIAL:

Fumped 195 BFFD, 19% water (158 FOPD; 37 BMFD), test

made June 25, 1956

TYPE COMPLETION:

Single producer from the "B-1" Zone.

your

## AUTHORITY FOR EXPENDITURE MURPHY CORPORATION - EAST POPLAR UNIT NO. 76 NE SE Section 1-T28N-R51E, Roosevelt County, Montana

	1011 X-10011-101	of woondaar	C. COUNTY & MODULE	
WELL DRILLING & CONSTRUCTION		TO CSG. P	T. COMP. & EQUIP.	TOTAL CO.T
Drilling - Footage - 5950'		\$ 31,240		5 31,240
Daywork - 5 days	@ \$850/day &	4,250		4,250
2 days	& \$775/day		<b>\$ 1,550</b>	1,550
Loc. survey, permit & prep.		500	•	500
Roads, fences, cattleguard,	etc.	600		600
Mud mat. C chem., incl. oil		4,000		4,000
	c. Bus	•	1 250	
Cementing casing		1,500	1,250	2,750
Coring materials & services	_	1,000		1,000
Testing services incl. swabi		1,500	300	1,800
Other logs, surveys @ analys	9 <u>1</u> 8	1,200	· 800	2,000
Perforating services			<b>600</b>	600
liydrafrac, acidize, etc. inc	:1. oi1		1,400	1,400
Float equip, centralizers,		250	650	900
Trucking, welding & other la		500	500	1,000
Supervision & missellaneous		250	250	500
		-	<del></del>	
Total Est. Well Drige & Co	onst, Exp.	\$ 46,790	\$ 7,300	\$ 54,090
WELL EQUIPMENT COSTS:				
Casing: 1050' of 9-5/8" 0.0		\$ 3,935		\$ 3,935
Casing: 5950' of 5-1/2" 0.D.		+ 0,000	\$ 9,925	
				9,925
Tubing: 5950' of 2-7/8" 0.D.	•		4,935	4, 935
Casing head & connections		. 300		<b>30</b> 0
Xmas tree & connections			800	800
Total Est. Well Equip. Cos	its	\$ 4,235	\$ 15,660	\$ 19,895
_ · · · · · · · · · · · · · · · · · · ·	,			
Total Est. Cost of Well		\$ 51,025	\$ 22,960	<b>\$ 73,</b> 985
LEASE EQUIPMENT:	·		•	
Flow lines			t 2 EAA	è a sm
			\$ 3,500	\$ 3,500
Other line pipe, valves & fi			500	500
Trucking, welding & other 1s		•	500	<u> 500</u>
Total Est. Cost of Lease I	iquip.		5 4,500	<b>3</b> 4,500
TOTAL DET COST OF WELL	L TEACE FORTE	\$ ET 02E	\$ 27 480	£ 70 40E
TOTAL EST. COST OF WELL 8	s fewer ponts	\$ 51,025	\$ 27,460	<b>\$ 78,485</b>
			<del></del>	
			1000 0000	
APP	ORTIONMENT OF	IUTAL ESTIK	ATED COSTS	
Nurphy Corporation -	%			
		6 10 A		A 04 000
Unit Operator	31.448470	\$ 16,047	* 8,63 <b>6</b>	\$ 24,683
llunoco Company	2,096565	1,070	576	1,646
Placid Gil Company	33,545035	17,116	9,211	26,327
The Carter Oil Co.	16.335860	8,335	4,486	12,821
Phillips Petroleum Company	16.335860	8,335	4,486	12,821
C. F. Lundgren	238210	122		
of termingren	POORTO	124	. 65	187
	APPROVAL	OF EXPENDIT	ure	
0			_	
Requested by:		•	Recommend Approval:	
11.001.0	r.n. 0. a			
Harold Million por	PR 2 0 1956			
Division Production Supt.	Date		Staff Production Han	Date
Recommend Approvals			Recommend Approval:	
			recommend ubbrosar.	
G. D. I. K. D	$E \cap E$			
Gordon Carry sor		. •	-	
uivision hanager /	Date	•	Budget Supervisor	Date
VbbLoneq:			Approveds	
•		•	•	
·				
	<del></del>		Vice President-Operat	ions Date
	•			
Ву	Date			
<b>~</b> J	J 1-Q			

## AUTHORITY FOR EXPENDITURE HURPHY CORPORATION - EAST POPLAR UNIT NO. 76 NE SE Section 1-T28N-R51E, Roosevelt County, Montana (Installation of Pumping Unit)

Pumping unit complete with engine	\$5,650
Labor and materials setting unit	750
Trucking, small fittings and incidentals	150
Rods, pump, and well head equipment	3,000
TOTAL ESTIMATED COST	\$9,550

### APPORTIONMENT OF TOTAL ESTIMATED COST

Murphy Corporation -	%	i
Unit Operator	31.448470	- \$3,003
Munoco Company	2.096565	200
Placid 011 Company	33.545035	3,203
The Carter Oil Company	16.335860	1,560
Phillips Petroleum Company	16.335860	1,560
C. F. Lundgren	.238210	23

### APPROVAL OF EXPENDITURE

	Requested by:	Recommend Approval:	•
:	Division Production Supt. MAY 3 1 1956	Staff Production Han	Date
	Recommend Approval:	Recommend Approval:	
Λ +	Division Manager MAY 3 1 1958	Budget Supervisor	Date
an			Da Co
	Approved:	Approved:	
		Vice President-Operations	Date
	By Date		

IM reg 5-31-56

Warring

File #76

## AUTHORITY FOR EXPENDITURE MURPHY CORPORATION - EAST POPLAR UNIT WELL NO. 76 NE NE Section 1, T28N, R51E, Roosevelt County, Montana (Workover #1)

1500 gallons Howco Hv acid and pump truck \$ 875

Miscellaneous labor and trucking 225

Total Estimated Cost \$1,100

Present Status: Pumping 26 BOFD, 38 BWFD, average water cut 59% from the WB-1W Zone.

History: Completed May 9, 1956, from "B-1" Zone perforations 5736 -5741. Cumulative production through November 1958 was 54,444 BO and 22,506 BW.

Justification for Workover: To increase production.

Proposed Workover: To re-acidize "B-1" Zone with 1500 gallons Howco HV acid (initial acid job 1000 gallons). Acidize down casing annulus to eliminate the cost of pulling rods, pump test.

APPORTIONNENT OF TOTAL ESTELATED COST

•			
Murphy Corporation	31.448470%	<b>\$ 31</b> 16	2,274
Munoco Company	2.096565%	23	v
Placid Oil Company	33°21'2032'2	369	
Carter Oil Company	16.335860%	180	
Phillips Petroleum Company	16.335860%	180	
C. F. Lundgren	.238210%	2	

#### APPROVAL OF EXPENDITURE

Requested by: 1-9-59	Recommend Approvals	
Division Production Supt. Date	Staff Production Man	Date
Recommend Approval:	Recommend Approval:	
Division Manager / Date	Budget Supervisor	Date
	Approved:	

Received approval from

Vice President-Operations

MTJ mm 1-9-59

mo approved copy

A.F.E. NO. 4-1502

File #76

## AUTHORITY FOR EXPENDITURE MURPHY OIL CORPORATION - BAST POPLAR UNIT NO. 76 NR NE Section 1, 7286, 8518, BOOSEVELT COUNTY, MONTANA

#### (Workover #2)

(ACIDIZE)

#### HISTORY:

Completed May 29, 1956 from the B-1 Zone perforations 5736-41'. Acidized with 1000 gallons, potential 158 BOPD, 37 BWPD. Production declined to 25 BOPD, 38 BWPD. Workover #1, January 1959, rescidized with 1500 gallons, increased production from 25 BOPD to 57 BOPD. Water decreased from 38 BWPD to 36 BWPD. Treated in June 1963 with B-3-S acid with no change in production rate. Cumulative production through November 1963 - 90,605 BO and 105,635 BW.

#### PRESENT STATUS:

Pumping at the rate of 8 BOPD and 57 BWPD. (Unaconomical).

#### PROPOSAL:

Acidize the B-1 Zona perforations 5736-41 with 2000 gallons of HOWCO CRA-10 scid (Controlled reaction scid). Acidize down casing annulus with low injection rate and low pressure. Let set calculated reaction time and start pumping. If soid damages pump, pull. (Expected increase in production 8-10 BOPD, pay out 3 to 4 months). (EPU \$76 and 10 to be scidised the same day to reduce cost).

#### ESTIMATED COST

Pulling Unit 12 hours at \$30 per 2000 gal. acid and service Misc. labor, trucking and materi	•	\$ 375 \$1,150 \$ 250
. 10	TAL ESTIMATED COST	\$1,775
APPORTIONE	NT OF TOTAL ESTIMATED COST	
Murphy Oil Corporation	31.4484707	\$ 558
Hanco Company	2.096565%	\$ 37
Placid Oil Company	33.5450357	\$ 595
Rumble 011 & Refining Company	16.335860 <b>7</b>	8 290
Phillips Petroleum Company	16.3358607	8 290
C. F. Landgren	.2382107	\$ 5

APPROVAL	-		
Requested By: M. T. James	1-9-65 Date	Recommend Approval:	
L. L. Duncan	/-3/-64 Date	W. J. Thornton Date	
APPROVED:			
21.0			

Date

MIJ/beb January 3, 1964

Manager - P. & A.

A.F.E. No. 7-1519 mil & M.T. Some

#### AUTHORITY FOR EXPENDITURE MURPHY OIL CORPORATION - EAST POPLAR UNIT NO. 76 ME SE Section 1, T28N, R51E, Roosevelt County, Montana (Perforate and Test A-2 & 3 Zones)

Workover No. 3

PRESENT STATUS: Rumping from the B-1 Zone. Tested 5-16-67 59 BFPD 90% Water 6 BOPD 53 BWPD (uneconomical). Cumulative production, B-1 Zone, through April, 1967 102,337 EO 184,722 DW.

DST No. 2 5590-5604 Straddle Backers. Recovered 1800' gas, 990' of clean oil and 180' salty sulphur water. (The A-4 tested water).

#### Structurally

Well No.	A ÷ 3	Zone	· + (-)	30	BW
EPU No. 76	; <b>-</b>	3432.			
EPU No. 74	<b>,</b> -	3426	(G')	55,708	946,746
EPU No. 24		3627	(5')	223,042	1,687,656
EPU No. 61	L -	3434	2'	Production 7 BOPD	tested 60 EWPD
IPU No. 99	-	3424	(8')	Production 17 EOPD 3	

The A-3 Zone in No. 76 is out of the region considered best A-3 production.

PROPOSAL: Set bridge plug on W.L. at 5660'. Fill hole with salt water. Parforate A-3 5597.5' (fracture), 5596.5' (1'), 5592-90' (2'), and A-2 5580-78' (2') G & N Log measurements with Lane Wells NCF-11 Jet Casing Gun, 4 holes per foot. Pump Fest. (Expected production 15-20 BOPD 100-150 BWPD. Pay our with 15 BOPD 65

# 1101esc 3585-86

#### ESTRATED COST

Pulling Unit, 20 hrs. at \$33.00 per hr.	\$ 675.00
Bridge Plug set on W.L. and perforate	\$ 875.00
Misc. Labor, Trucking, and Material	\$ 400.00
Total Estimated Cost	\$1,950.00

#### APPORTIONNEME OF TOTAL ESTIMATED COST

Murphy Oil Corporation	31.448470%	\$ 613.00
Munoco Company	2.096565%	\$ 40.00
Placid Oil Company	33.545035%	\$ 654.00
Humble Oil and Refining Company	16.335860%	\$ 319.00
Drilling Spacialties	16.335860%	\$ 319.00
C. F. Lundgren	.238210%	\$ 5.00

#### APPORVAL OF EXPENDITURE

Requested by:

APPROVED:

MIJ/sb

May 18, 1967

F:1//

## AUTHORITY FOR EXPENDITURE MURPHY OIL CORPORATION - EAST POPLAR UNIT NO. 76 NE SE Section 1, T28N, R51E, Roosevelt County, Montana

Supplement No. 1 to A.F.E. 7-1519 is to cover the two (2) acid jobs not anticipated in original A.F.E. No. 7-1519.

### ESTIMATED COST

	•
Pulling Unit	\$ 1,050.00
2 Acid Jobs	\$ 1,175.00
Packer Repair	\$ 100.00
Down Hole Pump Repair	\$ 225.00
Hydro Test Tubing	\$ 225.00
Misc. Labor, Trucking, and Material	\$ 425.00
Total Estimated Supplement	\$ 3,200.00

## APPORTIONMENT OF TOTAL ESTIMATED COST

Murphy Oil Corporation	31.448470%	\$ 1,006.00
Munoco Company	2.096565%	\$ 67.00
Placid Oil Company	33.545035%	\$ 1,073.00
Humble Oil and Refining Company	16.335860%	\$ 523.00
Drilling Specialties	16.335860%	\$ 523.00
C. F. Lundgren	.238210%	\$ 8.00

### APPROVAL OF EXPENDITURE

Requested by:

APPROVED:

W. J. Thornton

LAbourcan S/21/6

MTJ/sb August 16, 1967

#### (SUBMIT IN QUADRU

TO

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

NOTICE! THIS FORM BECOMES PERMIT WHEN-STAMPED APPROVED BY AN AGENT OF THE COMMUSSIO 400

SUNDRY NOTI	CES A	ND REPORT OF WELLS	30 1956°°
Notice of Intention to Drill	X	Subsequent Report of Water Shut-off	E OF MON 484
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention to Test Water Shut-off		Subsequent Report of Altering Casing	*** *******
Notice of Intention to Redrill or Repair Well	_	Subsequent Report of Redrilling or Repair	
Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abandonment	
Notice of Intention to Pull or Alter Casing		Supplementary Well History	
Notice of Intention to Abandon Well		Report of Fracturing	7.75 %3
y serie many m	-	1	***
owing is a { notice of intention to do work } on	land {	described as follows:  LEASE E.P.U. Allotted-San	19 56 90 ders(3554
MONTANA (State)	Roa	Sevelt East Po (County) (Field	

(Township) (Range) 

28N

(Locate accurately on Plat on back of this form the well location, and show lease boundary.)

C NE SE Section

The elevation of the derrick floor above the sea level is.....not...yet determined......

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

#### DETAILS OF WORK RESULT

Will set approximately 1050' of 9-5/8" 0.D. surface pipe with 400 sacks of cement. Total depth is expected to be 5950' so as to evaluate the producing section of the Madison formation. 5-1/2" 0.D. casing will be set for production string. Adequate blow-out preventers will be installed.

pasda pattiern 😁 ATTACHED DRAFT IN THE AMOUNT OF \$75.00 FOR DRILLING PERMIT FEE as when her uniant of remains a

Las Manager ...

-Cyproved 4: 24-56

Approved subject to conditions on reverse of form

Date.

District Office Agent

Title Division Production Superintendent

Υt

Address 602 Midland Bank Bldg ings Mont. £2}

NOTE:—Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL

15M--5-55

OVER

. . .

:::-

#### (SUBMIT IN QUADRUPLICATE)

TO

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

NOTICE!
THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE COMMISSION.

RECEIVanEaD

#### SUNDRY NOTICES AND REPORT OF WELLS

MAY 1 8 1956 752

	Notice of Intention to Drill		Subsequent Report of Water Shu	OF AND GAS CONSERVED OF MO	1	rid usion rijerijs
	Notice of Intention to Change Plans	MORTO M WATER SAFERY	Subsequent Report of Shooting, A			l
	Notice of Intention to Test Water Shut-off		Subsequent Report of Altering C		,	-
	Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling	or Repair		١,
	Notice of Intention to Shoot, Acidize, or Cemen	ıt ·	Subsequent Report of Abandonm	ent	<del></del> -	[
	Notice of Intention to Pull or Alter Casing		Supplementary Well History		X	ľ
	Notice of Intention to Abandon Well		Report of Fracturing		§2289.	toO
	- N. 65 24		-			
Follow	ring is a { report of work done		described as follows	May 17	890	<sub>19</sub> -56
				,		
•••••	MONTANA(State)	R	County)	•••••••	Pop1a	<u> </u>
	-		` • •	(Fiel		
Well 1	No. 76 NE SE Sec	tion 1	28N	51E	M.P.M	•
The w	ell is located 1980 ft. from {	Southine	e and ft. from			
The e	evation of the derrick floor above the se	ea level is	2158' K.P.			
		DETAILS OF	PLAN OF WORK	REAL	CAREF	ULLY
	CAREFULLY				· ••••••	
READ (Sta	CAREFULLY  ate names of and expected depths to objective sa and all other important proposed work, particular	inds; show size,				nenting

Spudded at 3:00 P.M., 5-5-56. Ran 33 jts. (1071.66') of 9-5/8", 32.30# H-40, and 36# J-55, 8rd. thd., ST&C, R-2, Class "A" American casing. Top joint only is 236#, J-55 casing. Landed 11.50' below RKB at 1083.16'. Ran Howco float shoe on bottom and one Howco centralizer at 1065'. Cemented with 400 sacks of regular cement with 2 percent CaCl2. Emped plug with 800# at 12:30 P.M., 5-6-56. Released as pressure, float held ok. Circulated approximately 75 sacks of clean cement to surface.

Approved subject to conditions on reverse of form

By Control Title

-- District Office Agent

mpany MURPHY CORPORATION'

By Harold Hills to the state of the state of

TitleDivision Production Superintendent

Address 602 Midland Bank Bldg, Billings, Mont.

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Augustiene is the contribution complete.

NOTE:—Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

....tr : tow IIA 31

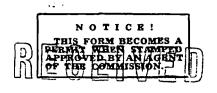
WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL

Form No. 2 GENERAL RULES 201, 202, 213, 216, 219, 233.1

## (SUBMIT IN QUADRUPLICATE)

TO.

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY



FED 5 - 1959

OIL AND EAS CONSERVATION COMMISSION

## SUNDRY NOTICES AND REPORT OF WELLS

	Notice of Intention to Drill	1	Subsequent Report of Wate	er Shut-off	e ice mostava
	Notice of Intention to Change Plans		Subsequent Report of Shoo		1
	Notice of Intention to Test Water Shut-off		Subsequent Report of Alte	ring Casing	<del>                                     </del>
	Notice of Intention to Redrill or Repair Well		Subsequent Report of Red	illing or Repair	T
	Notice of Intention to Shoot, Acidize, or Cement	XX	Subsequent Report of Aba	ndonment	T !
	Notice of Intention to Pull or Alter Casing		Supplementary Well Histor	У	
	Notice of Intention to Abandon Well		Report of Fracturing		<del></del>
		-			<del>                                     </del>
	. (Indicate Above by Check	Mark No	ture of Report, Notice, or Ot	her Data)	
			<u>.</u>	Jamuary 28	19.59
Follo	wing is a { notice of intention to do work } on	land {		llows:	
			LEASE	37-Ind-12890 (Sa	nders)
	MONTANA		Roosevelt	Rost Pa	nlar
	(State)		(County)	(Fie	id)
***-17 *	or 76 MF SF Section 1		28м	<b>ピコ</b> む	мом
wец.	No. 76 NE SE Section 1 (m. sec.)		(Township)	(Range)	(Meridian)
The v	vell is located	line	e and 660 ft.	$from \left\{ \begin{array}{c} E \\ XXX \end{array} \right\}$ line	of Sec1
(L	ocate accurately on Plat on back of this form the well i	ocation, a	ind show lease boundary.)		
The e	levation of the derrick floor above the sea leve	el is21	16' Ground	·······	
READ	CAREFULLY DETAIL	LS OF	PLAN OF WORK	REA	D CAREFULLY
	ate names of and expected depths to objective sands; sh and all other important proposed work, particularly all				ng jobs, cementing
	n	ETTATT S	OF WORK		
	b		SULT		
			~~~		
	To re-acidize "B" Zone p Howco HV acid, pump test		tions (5736'-57ኒብ'	) with 1500 gall	ons
				RECEIV	E D
				FLD 2 1959	)
			Qi.	-	
_	yed subject to conditions on reverse of form		30	AND GAS CONSERVATION C. THE STATE OF MUNICIPAL	Jir.Mission
Appro	ived subject to conditions on reverse of form		Company Mur	THE STATE OF MUNICIPAL ON COPPORATION	BILLINGS

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

District Office Agent

Title

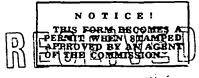
Poplar, Montana

#### Form No. 2

ENERAL RULES 201, 202, 213, 216, 219, 233.1

### (SUBMIT IN QUADRUPLICATE)

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY



### SUNDRY NOTICES AND REPORT OF WELLS

	AND EAS CANCERNA	Med Lukamen
Notice of Intention to Drill	Subsequent Report of Water Shut-off	r moalitid
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing	
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment	, ,
Notice of Intention to Pull or Alter Casing	Supplementary Well History	
Notice of Intention to Abandon Well	Report of Fracturing	
٠ 🚅 اوت تنار	- Workover History	XX

(Indicate Above by Check Mark Nature of Beport, Notice, or Other Data) January report of work done DOMET described as follows: Following is a on land leased LEASE 1-37-Ind-12890 (Sanders) East Poplar Roosevelt MONTANA (State) (Field) (County)  $M_{\bullet}P_{\bullet}M_{\bullet}$ (Range) (m. sec.) (Township) (Meridian) E line and 660 ft from (Locate accurately on Plat on back of this form the well location, and show lease boundary.) The elevation of the derrick floor above the sea level is 2116 Ground RÉAD CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.) DETAILS OF WORK RESULT

SEE ATTACHED SHEET

Company.

MONTANA

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MA DI

1.43, 10

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

CHANGE STATES

ect to conditions on reverse of form

District Office Agent

10M--1-56

OVER

DEPAR	UM'TED STATES RTME. OF THE INI		TE* re-  Form approved. Budget Bureau No. 42-R1  5. LEASE DESIGNATION AND SERIAL N
1///	GEOLOGICAL SURVE	Υ	I-17-IND 12890
SUNDRY NO	OTICES AND REPOR	TS ON WELLS	6. IF INDIAN, ALLOTTED OR TRIBE NA
(Do not use this form for pr Use "APP)	roposals to drill or to deepen or LICATION FOR PERMIT—" for	plug back to a different perervoir.	
•	T U.	S. GEOLECI: 12 SOME	7. UNIT AGREEMENT NAME
WELL GAS OTRE	l l	RECE	Esst Poplar
NAME OF OPERATOR		1064	8. PARM OR LEASE NAME
ADDRESS OF OPERATOR	rporation	JAN 3 1 1964	9. WELL NO.
Poplar, Monta	ing 59255		EPU #76
LOCATION OF WELL (Report location See also space 17 below.) At surface	on clearly and in accordance, wit	h any state Coult and The	10. FIELD: AND POOL, OR WILDCAT
	1	DILL	East Poplar Unit
1980			11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA
1987 From S line	and 660' from E li	ne of Section I	Come se section 1,
PERMIT NO.	15. ELEVATIONS (Show when	ther DF, RT, GR, etc.)	12. COUNTY NOR PARISH 13. STATE
<u>/</u>	2146 Gr.		Rocsevelt Monta
Check		ate Nature of Notice, Report,	= 1
. / <b>/</b> -	אדשחדוסא דס:		SEQUENT REPORT OF:
TEST WATER SHUT-OFF	PULL OR ALTER CASING	WATER SHUT-OFF	REPAIRING WELL
FRACTUBE TREAT	MULTIPLE COMPLETE	FRACTURE TREATMENT	ALTERING CASING
SHOOT OR ACIDIZE	ABANDON*	SHOOTING OR ACIDIZING	ABANDONMENT*
REPAIR WELL	CHANGE PLANS	(Other)	
(Other)		Completion or Rec	suits of multiple completion on Well ompletion Report and Log form.)
proposed work. If well is dire	OPERATIONS (Clearly state all perceptionally drilled, give subsurface	ertinent details, and give pertinent details, and give pertinent details, and measured and true versions and true versions.	ates, including estimated date of starting critical depths for all markers and zones p
nent to this work.) *	,		
cidise the Re Tome	nerforetion \$736_6	il with 2000 callons	A MONION CON -100 and 4
		ol' with 2900 gallons on casing annulus with	
Controlled reaction	acid). Acidize dow	ol' with 2900 gallons on casing annulus with	low injection rate
Controlled reaction and pressure. Let se	acid). Acidize dow	m casing amulus with	low injection rate
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READ CAREFULLY

## (SUBMIT IN QUADRUPLICATE)

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

## SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill	ļ	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	<u> </u>	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing	1	Supplementary Well History
Notice of Intention to Abandon Well		Report of Fracturing

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data)

January 30. Inotice of intention to do work ( Following is a on land described as follows: ..MONTANA.. (State) (County) C HE SE Section 1 Well No .. (Township) (m. sec.) (Range) (Meridian) line and. .....ft, from line of Sec ..... LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW

JAN 31 1964 READ CAREFULLY DETAILS OF PLAN OF WORK (State names of and expected depths to objective sands; show size, weights, and lengths of proposed varings; undicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fractuning.) Billing.

#### DETAILS OF WORK RESULT

Acidius the 3- Zone perforation 5736-41' with 2000 gallons of HOUCO CRA-10 soid (Controlled reaction soid). Aciding soun casing amplus with low injection rate med arecoure. Let set calculated resttion time and start pumping.

Approved subject to conditions on reverse of form	Company Murphy G11 Corporation
JAN 3 1 1964 Date	By BIGINAL SIGNED BY M. T. JAMES
ORIGINAL SIGNED BY:  J. R. Hug: Supervisor Wiston	Title Field Production Superintendent
Title  District Office Agent	Address P.O. Box 347, Popler, Mostene 59255

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

The elevation of the derrick floor above the sea level is

Form No. 2 GENERAL RULES 201, 202, 213, 216, 219, 233.1

Notice of Intention to Drill

## (SUBMIT IN QUADRUPLICATE)

TO

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

## SUNDRY NOTICES AND REPORT OF WELLS

Subsequent Report of Water Shut-off

Notice of I	ntention to Change	Plans'	Subseque	nt Report of Shootin	g, Acidizing, Cementi	ng '
Notice of I	ntention to Test Wa	ater Shut-off	Subseque	nt Report of Alteri	ng Casing	
Notice of I	ntention to Redrill	or Repair Well	Subseque	nt Report of Redril	ling or Repair	
Notice of I	ntention to Shoot, A	Acidize, or Cement	Subseque	nt Report of Abanc	lonment	
Notice of I	ntention to Pull or	Alter Casing	Suppleme	ntary Well' History	•	
	ntention to Abandon		Report of	Fracturing	,	
-						<del>`                                     </del>
L				N-44 O+b-	D-4-X	
	(Indic	ate Above by Check h	tark Nature of Rep	ort, Notice, or Othe	er Data)	**
			***		Federaty	, 19
		arate day and the last		1, 5, 4	11 -	•
Following is a	report of work d		land leased	described as fo		
	•			LEASE	1-37-135-121	
			Bessenute	•	West Bos	lar this
	MONTANA (State)		(County)			Field)
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Well No	6	IN CH Section	//	Fownship)	<b>2518</b> (Range)	(Meridian)
	****	(m. sec.)	(·	rownsinp)	(Range)	(Mendian)
The well is locate	ed <b>1963</b>	ft. from \ \left\ \ \left\ \left\ lin	e and	ft. from}	$\left\{ \text{line of Sec} \right\}$	
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The elevation of	the $derrick$ -floor	above the sea level	is	W.	FED 1/19	DE A
				- ,	FEB 141	304
READ CAREFU	LLY	DETAIL	S OF PLAN OF	WORK	RI	EAD CAREFULLY
(State names o	f and expected dep	ths to objective sands;	show size, weights,	and lengths of p	roposed casings in	dicate mudding jobs,
cementing points, a	nd all other importa	int proposed work, part	icularly all details r	esults Shooting, Aci	dizing, "Fracturmg.)"	
		DI	TAILS OF WOR	K		•
	·		RESULT		A.A. Manufinani.	
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Approved subject	ct_to_conditions o	on reverse of form	Com	pany	se archesees	re 
_ FEB 1	7 1984			• • • • • • • • • • • • • • • • • • •	SIGNED BY M.	® * *1
Date	IN BIGNED BY:	***************************************	Ву			
By J. R. H	ug, Supervisor				(A) 医多种性 医多种性 (A) E) 医多种性 (A) E)	
y			Title	Field Produ	AFRICA GARAGE SE	
		Title	Title			
	District Offic					Morrana 59253

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

Form 9-331 (May 1963)	U' DEPARTME:	ED STATES TOF THE IN	/^	BMIT IN TRIJ AT	re- Budget	approved. Bureau No. 42-R1424. KATION AND SERIAL NO.
		LOGICAL SURV		ue piue)		IDF 12890 ÷
	JNDRY NOTICE this form for proposals Use "APPLICATIO	to drill or to deepen o	r plug back to a	different reservoir.		LOTTEE OB TRUBE NAME
1. GAS		U.	S. GEOLOGIGA	F SHKAFA -	7. UNIT AGREEM	ENT NAME
WELL WEL  2. NAME OF OPERATOR	<del></del>	<u> </u>	<b>GEDEINE</b>	!)	East Po	SETNAME
Murp 3. Address of Opera	hy 011 Corpora	tion	FEB 141	964	9. wet. No.	
_ Pop1	ar, Montana 59	255		į	ें इ <b>र</b> शे	#76: V
4. LOCATION OF WELL See also space 17 At surface	(Report location clearl below.)	y and in accordance w	lah lankista te 1790	uirements.  CORRA		POOL, OR WILDCAT
1982' from	s S line and 66	O' from E lin	e of Sacti	on 1		M., OR BLE. AND.
14. PERMIT NO.	1	5. ELEVATIONS (Show wh	ether DF, RT, GR, e		TIBN. R	PARTSH 18.ESTATE
		2146	CT.	,	Rooseval	Montana
16.	Check Appro			f Notice, Report, o	2 3 - 7	
	NOTICE OF INTENTION				POUBNT REPORT: OF :	
TEST WATER SHU	T-OFF PULL	OR ALTER CASING	<u> </u>	ATER SHUT-OFF	n vääg	IRING WELL
FRACTURE TREAT	<del></del>	TIPLE COMPLETE	<del>-</del>	RACTURE TREATMENT	ALTE	RING CASING
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SIGNED	TAL SIGNED BI M.	T. JAMES TITL	E Pield Pro	duction_Super	intendent -	F <b>abruar</b> ÿ <u>1</u> 2, 19
	Pederal or State office un DRIG. 2007.) BUT ACY A	e)	DISTR	ICT ENGINEER		FEB 1 4 1964
	APPROVAL, IF ANY				SDATE HERE	To Area

Form No. 2 GENERAL RULES 201, 202, 213, 216, 219, 233.1

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## (SUBMIT IN QUADRUPLICATE) The manner of the TO the section of the section

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

### SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to	Drill	<u> </u>	Subsequent Report of	Water Shut-off	
Notice of Intention to			Subsequent Report of	Shooting, Acidizing, Cementis	ng
Notice of Intention to	Test Water Shut-off		Subsequent Report of	Altering Casing	
Notice of Intention to	Redrill or Repair Well		Subsequent Report of	Redrilling or Repair	
Notice of Intention to	Shoot, Acidize, or Cemer	nt	Subsequent Report of	Abandonment	
Notice of Intention to	Pull or Alter Casing	<u>.                                    </u>	Supplementary Well	History	
Notice of Intention to	Abandon Well	;	Report of Fracturing		
Vorkover Me	3 - Change Kone	XX	-		
L. HWARATAN THAT	(Indicate Above by Ch		ature of Report, Notice,	or Other Data)	
•	•		•	July 18	10
					, 19
wing is a notice of	intention to do work	on land	described	i as follows:	
<del>de la constate</del>				E I-37-IND-12890	
					9
MONTAN	A		Roosevelt (County)	Best Pop	plar Unit
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No70	C HE SE Sec (m: sec.)	rion l	ZBA (Township)	JLK (Panga)	(Meridian)
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NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

	N'TED STATE		1045 1-44 11	76-	Form approved.  Budget Bureau No. 4:  DESIGNATION AND SER	
	DLOGICAL SUF		verse side)		IND-12890	IAL NO.
SUNDRY NOTICE (Do not use this form for proposals Use "APPLICATION"	S AND REPO	ORTS ON	a different_reservoir.		AN, ALLOTTEE OR TRIE	E NAME
OIL CAB WELL OTHER	JN FOR PERMIT—	9, 5, 680E0	EIVED	:   .	Pock GREENENT NAME Poplar Unit	<del></del>
2. NAME OF OPERATOR			1 3 1087	8. FARM	OR LEASE NAME	
Airphy Oil Corporation  B. ADDRESS OF OPERATOR  B. O. Roy 5/7 Poplar Mont	ena 50255	JUL	19 30	9. WELL	NO	
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	2146' G.L			Roose	welt	tana
6. Check Appro			of Notice, Report,	<del></del>		
NOTICE OF INTENTIO		l		SEQUENT EEPOB	7 / 7	
TEST WATER SHUT-OFF PUL	L OR ALTER CASING		WATER SHUT-OFF		BEPAIRING WELL	
<del> </del>	TIPLE COMPLETE		PRACTURE TREATMENT		ALTERING CASING	_
<del></del>	NDON®		SHOOTING OR ACIDIZING		ABANDON MENT	_
(Other) as a second	_	XX		sults of multiple	completion on Well	
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Pump Test.						
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				- 有多量的		
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	•			5 6 4 2 E		
8. I hereby certify that the foregoing is tr				11.392		
SIGNED		TLE Field	Production Sup	erintender	re July 18,	1967
(This space for Federal or State office u	•					
APPROVED BY (ORIG. SGD.) MICHAE CONDITIONS OF APPROVAL, IF ANY	ti. F. REITZ	TLE ACTING	DISTRICT ENGINEE	PA.	m JUL 1.9 1	967_
	*\$aa.!-	etructions on	Ravama Sida	•	5. <u>5.</u> 5.4	

## (SUBMIT IN QUADRUPLICATE)

THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

NOTICE

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

## SUNDRY NOTICES AND REPORT OF WELLS

		Initial Potential	XX
Notice of Intention to Abandon Well	ļ	Report of Fracturing	
Notice of Intention to Pull or Alter Casing		Supplementary Well History	
Notice of Intention to Shoot, Acidize, or Cement	<u> </u>	Subsequent Report of Abandonment	11
Notice of Intention to Redrill or Repair Well	<u> </u>	Subsequent Report of Redrilling or Repair	
Notice of Intention to Test Water Shut-off	ļ.; ·	Subsequent Report of Altering Casing	
Notice of Intention to Change Plans.		Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention-to Drill	_	Subsequent Report of Water Shut-off	

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data) report of work done on land leased described as follows: Roosevelt .......MONTANA..... Rast Poplar Unit (Range) The well is located ft. from line and ft. from line of Sec. 1 LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY . . . READ CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.) DETAILS OF WORK RECEIVED RESULT AUG 28 196/ 5.I. 7 hrs. Initial Potential - A Zone OIL AND GAS COMPANIEST IN THE COMMINISSION OF THE STATE OF MUNTANA . RILLINGS Temporarily Abandoned 8-25-67 Tubing and rods to be pulled. Casing to be left intect. Approved subject to conditions on reverse of form AUG 9 8 1967 ORIGINAL SIGNED BY:

COMMISSION USE ONLY
API WELL NUMBER

2 5
STATE COUNTY WELL

By J. R. Hug, Supervisor

District Office Agent

NOTE:—Reports on this form to be submitted to the District Agent for Approval in Quadruplicate.

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.

Title... Field Production Superintendent

Title

SUNDRY NOTICES AND REPORTS ON WELLS  CDo not use this form for proposals to dell or to deepee or call that we answers to the control of result had to deepee or call that we answers to the control of result had to deepee or call that we answers to the control of result had to deepee or call that we answers to the control of the control	SUNDRY NOTICES AND REPORTS ON WELLS  (Do not use this form for proposite to fell out deeper or party to the state and the form for proposite to fell out deeper or party to the state and the form for proposite to fell out deeper or party to the state and the form for proposite to fell out deeper or party of the form for proposite to fell out the form for the form for the form for the fell out the	May 1963)	THE STATES	SUBMIT IN TP ICAT	Te- Duaget Dureau No. 42-K1424.
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(Other)  (Ot	(Other)  Consection of Recompletion of Configuration of Completion of Recompletion Reports and Log form.)  Describe Proposed on Configurations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting and proposed work. If well in directionally drilled, give subsurface locations and measured and true vertical depths for all markers and some pertinent to this work.)  ast Poplar Unit No. 76  umaped 7 hrs. S.I. 7 hrs. Pumped 19 BF 100% Water  nitial Potential - A Zone  emporarily Abandoned 8-25-67  ubing and rods to be pulled. Casing to be left intact.  I hereby certify that the foregoing is true and correct  SIGNED ORIGINAL STONED BY M. T. JAMESTITLE  Field Production Superintension  Approved by Kern Schilmmark Added Title  DISTRICT ENGINEER  DATE  DISTRICT ENGINEER	} <del></del> }	<u>;—</u> }	V-4-4-1	
7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertheut details, and give perthent date. Including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*  Sast Poplar Unit No. 76  Pumped 7 hrs. S.I. 7 hrs. Pumped 19 BF 100% Water [Initial Potential - A Zone  Semporarily Abandoned 8-25-67  Publing and rods to be pulled. Casing to be left intact.  SIGNED ORIGINAL STONED BY M. T. JAMES [TITLE]  Field Production Superintendent August 25, 1  (This space for Federal or State office use)	DESCRIBE PROPOSED ON CONFIGURED OPERATIONS (Clearly state all pertinent datally, and give pertinent date of starting as proposed work. If well is directionally drilled, give subsurface locations and mensured and true vertical depths, for all markers and sonces pertinent to this work.)*  Last Poplar Unit No. 76  Last Pop	h		(Norm: Report rest	ilts of multiple completion on Well
8. I hereby certify that the foregoing is true and correct  SIGNED ORIGINAL STONED BY M. T. JAMESTITLE Field Production Superintendent August 25, 1  (This space for Federal or State office use)	I hereby certify that the foregoing is true and correct  SIGNED ORIGINAL STONED BY M. T. JAMESTITLE Field Production Superintendent August 25.  (This space for Federal or State office use)  APPROVED BY CAME SED HMARYA OFFI TITLE			: : :	Collows  Col
BIOTRICT ENGINEED AND CEDERAL IOCT	APPROVED BY COME BEDJ HMARY A COME TITLE DISTRICT ENGINEER DATE SEP 1 1967	Pumped 7 hrs. S.I. 7 Initial Potential - A Temporarily Abandoned	hrs. Pumped 19 BF 10 Zone 8-25-67	00% Water	The state of the s
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## (SUBMIT IN QUADRUPLICATE)

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill		Subsequent Report of Water Shirt-off
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off		Subsequent Report of Alterial Casing of
Notice of Intention to Redrill or Repair Well	<u> </u>	Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abandoninent,
Notice of Intention to Pull or Alter Casing	)	Supplementary Well History
Notice of Intention to Abandon Well	X	Report of Fracturing
	-	

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data)

			July 2	7 19 76
Following is a notice of	intention to do work on land	leased described as	follows:	
			East Poplar Uni	t No. 76
MONTAN	A	Roosevelt	East Poplar	Unit
(State)		(County)	(Fi	ield)
Well No. 76	NE SE Section 1 (m. sec.)	T28N	R51E	MPM
	(m. sec.)	(Township)	(Range)	(Meridian)
The well is located $\frac{1}{2}$	982 ft. from XXXX line and	660 ft. from	Exit line of Sec	1
	ON PLAT ON BACK OF THIS FO	•		
The elevation of the derri	ck floor above the sea level is	2146' G.L.	······································	

#### READ CAREFULLY

### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

#### DETAILS OF WORK RESULT

It is proposed to plug and abandon this well as follows:

Set a bridge plug with wireline at 4700' with a 100; cement plug on top. Cut 5-1/2" casing off at approximately 3600' and set a 50 sack cement plug at top of casing stub.

Set a 100' cement plug at the top of the Dakota Sand, 3200'.

Set a 100' cement plug (50' in and 50' out) at bottom of 9-5/8" surface casing. Set a 10' cement plug at top of surface casing. The surface casing will be cut off 4' below ground level and a steel cap welded on top of the 9-5/8" casing. No dry hole marker is to be erected.

Approved subject to conditions on reverse of form	Compai
Date AUG 4 1976	Ву
By Slave I Hander Systems  District Office Agent Title	Title
District Office Agent / Title	A 3.3

MURPHY OIL CORPORATION District Superintendent

Address P.O. Box 547, Poplar, Montana 59255

COMMISSION USE ONLY API WELL NUMBER COUNTY WELL

NOTE:-Reports on this form to be submitted to the District Agent for Approval in Quadruplicate WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.

1						
Form 9-331 (May 1963)	Uh. (ED STAT DEPARTMENT OF THE GEOLOGICAL SI	INTERIOR Term	BMIT IN TRIPL CAT her instructions on se side)	5. LEASE DESIGNA	Bureau No. 42	
SUN (Do not use this	DRY NOTICES AND RE	PORTS SIGNA	Bical Survey	6. IF INDIAN, ALL	ine Sout	E NAME
OIL GAS WELL	OTHER	KULA	<b>19</b> [16]	7. UNIT AGREEME	NT NAME	
Murphy Oil 3. Address of operator		Billing*	Montana	S. FARM OR LEASE  PAST POT  9. WELL NO.		· · ·
	7 Poplar Montana 59 Report location clearly and in accorda	255	ilrements.•	No. 76	lar Unit	T
1982 from 1	the South line and 660	from the Eas			Section 1	
	2146'	G.L.		Roosevel	t Mor	ntana
TEST WATER SHUT-OF FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (Other)	MULTIPLE COMPLETE ABANDON® CHANGE PLANS	G W.	SUBS ATER SHUT-OFF ACTUBE TREATMENT HOOTING OR ACIDIZING Other) (NOTE: Report res Completion or Reco	REPAIR ALTER ABANG	Log form.)	
It is proposed work. If is proposed work.)	sed to plug and abando	n this well as	follows:	plug on top.	narkers and zon	nes perti-
of casing st Set a 100' o	cement plug at the top	of the Dakota d 50' out) at	Sand, 3200'.	5/8" surface (	casing.	
Set a 10' ce 4' below gre	ement plug at top of sound level and a steel	urface casing. cap welded on	The surface top of the 9	casing will 0-5/8" casing.	be cut of	ff.

18. I hereby certify that the foregoing is true and correct

SIGNED ORIGINAL SIGNED BY

(This space for Federal or State office use)

APPROVED BY APPROVAL, IF ANY:

TITLE ORIGINEEF

DATE 7-30-76

No dry hole marker is to be erected.

Form No. 2 **GENERAL RULES** 201, 202, 213, 216, 219, 233,1

## (SUBMIT IN QUADRUPLICATE)

NOTICE

THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

## OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

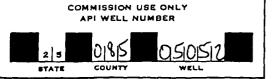
SUNDRY NOTICES AND REPORT OF WELLS Subsequent Report of Water Shut-off 270 Notice of Intention-to Drill Subsequent Report of Shooting, Acidizing Gementing Notice of Intention to Change Plans Subsequent Report of Aftering Casing Notice of Intention to Test Water Shut-off Subsequent Report of Redrilling or Repair Notice of Intention to Redrill or Repair Well Subsequent Report of Abandonment Notice of Intention to Shoot, Acidize, or Cement Supplementary Well History Notice of Intention to Pull or Alter Casing Report of Fracturing Notice of Intention to Abandon Well

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data) September 28 Following is a XXXXXX described as follows: on land report of work done leased East Poplar Unit No. 76 East Poplar Unit Roosevelt \_\_\_\_MONTANA (County) (Field) T28N (Township) NE SE Section 1 R51E MPM (Meridian) The well is located 1982 ft. from  $\left\{\begin{array}{ccc} XXX \\ S \end{array}\right\}$  line and 660 ft. from  $\left\{\begin{array}{ccc} E \\ XXX \end{array}\right\}$  line of Sec. 1 LOCATE ACCURATÉLY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY The elevation of the derrick floor above the sea level is 2146 G.L. DETAILS OF PLAN OF WORK READ CAREFULLY READ CAREFULLY (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.) DETAILS OF WORK RESULT

This well was plugged and abandoned as follows:

A bridge plug was set at 4700' with a 10' cement plug on top. The 5-1/2" casing was cut off at 3644' and a 50 sack cement plug was set at the top of the casing stub. A 100' cement plug was set at the top of the Dakota Sand at 3200'. A 100' cement plug was set in the bottom of the 9-5/8" surface casing, 1/2 in and 1/2 out. A 10' cement plug was set at the top of the surface casing. The surface casing was cut off 4' below ground level and a steel cap welded on top of the 9-5/8" surface casing.

No dry dote marker is to be erected on this i	· ·
Surface restoration should be completed by No	
Approved subject to conditions on reverse of form	Company Murphy Oil Corporation
Date JUN 2 3 1982	By Breen melear.
District Office Agent Title  DOCATION INSPECTED & APPROVEDI	Title District Superintendent
MECCATION INSPECTED & APPROVED!	Address P.O. Box 547, Poplar, Montana 59255
<del></del>	



NOTE:-Reports on this form to be submitted to the District Agent for Approval in Quadruplicate

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.

• •	•	• •		· · ·
Form 9-331 (May 1963)	UNITED STA		ns on re	orm approved. udget Bureau No. 42-R1424.
•	DEPARTMENT OF TH	_	5. LEASE I	ESIGNATION AND SERIAL NO.
	GEOLOGICAL	SURVEY		IND-12890
SUND	RY NOTICES AND R	EPORTS ON WELLS Surve	6. IF INDI.	AN, ALLOTTES OR TRIBE NAME
(Do not use this fo	rm for proposais to drill or to d	eepen or ping back to a different reserv	oir.	-
<u> </u>	JSE AFFEICKTION FOR FERMI	RECEIVED	ASSIN	iboine Souix
OIL GAS	1		1. 5.117 &	ALLMENT NAME
WELL WELL L	OTHER	<u>sep 30 1976</u>	R PARM O	R LEASE NAME
•		D:U: Atontona	1	
Murphy Oil Cor	poration	Billings, Montana	9. WELL N	Poplar Unit
P.O. Boy 547	Poplar, Montana 59	755	_	_
LOCATION OF WELL (Rep	ort location clearly and in accor-	dance with any State requirements.*	No. 7	AND POOL, OR WILDCAT
See also space 17 below At surface		•		
1000 E			11. SEC., 1	Poplar Unit
1307 LLOM CUE	South line and bou	from the East line	ĺ	VEY OR ARDA
			ľ	SE Section 1,
14. PERMIT NO.	15. ELEVATIONS (	Show whether DF, RT, GR, etc.)	12. COUNT	Y OB PARISE 13. STATE
	21.64	' G.L.	Į.	
<del></del>			Roose	
16.	Check Appropriate Box 1	o Indicate Nature of Notice, Re	port, or Other Date	1
NO	TICE OF INTENTION TO:		SUBSEQUENT REPORT	OF:
TEST WATER SHUT-OFF	PULL OR ALTER CAS	ING WATER SHUT-OFF		REPAIRING WELL
FRACTURE TREAT	MULTIPLE COMPLET	E FRACTURE TREAT	MENT	ALTERING CASING
BHOOT OR ACIDIZE	ABANDON*	SHOOTING OR ACI	DIZING	ABANDONMENT*
REPAIR WELL	CHANGE PLANS	(Other)		
(Other)	.—	(Norn: Rep	ort results of multiple or Recompletion Repor	completion on Weil
17. DESCRIBE PROPOSED OR C	OMPLETED OPERATIONS (Clearly 8	tate all pertinent details, and give perti- subsurface locations and measured and		
A bridge plug was cut off at A 100' cement plug was set in cement plug was off 4' below gr	3644' and a 50 sach olug was set at the the the bottom of the set at the top of round level and a se	th a 10' cement plug on a cement plug was set at top of the Dakota Sand 9-5/8" surface casing, the surface casing. The teel cap welded on top ced on this location.	the top of the at 3200'. A 1/2 in and 1/3 to surface cas	he casing stub. 100' cement 2 out. A 10' ing was cut
Surface restor	ation should be comp	pleted by November 1, 19	76.	
				•
			-	
	•			
8. I hereby certify that th	e foregoing is true and correct	·		
ORIG	NAL SIGNED BY			
SIGNED BIL	LY G. MELEAR	TITLE District Superin		E September 28, 197
(This space for Federa	or state office use)	ACTING DISTRICT SUP	ERVISOR	
APPROVED BY W	Ilsan & Markhert	•		JUN 1 1 1982
CONDITIONS OF APP	ROVAL, IF ANY:	TITLE	DAT	W

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	•, •		Casing '	ps	si flowing; .					_ psi shut-in
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				DR	ILL STEM	TESTS				
D.S.T.   No.	Fro	1	Tool Open	Shut-In	F.P.	S.I.P.	Re	covery	1	Cushion
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Jopen-

## WELL DRILLING PLAN

Field or Area	East Poplar				_Division	Billin	gs
County or Parish	Roosevelt		Total Ar	ti ci pate	d Depth_	59501	<del></del>
Lease East Popl	ar Unit	Well N	ameE	ast Popl	ar Unit	_He11 No	
Well Location NE	SE Section 1. To	wnship 2	8 North.	Range 5	1 East		
Lowest fresh water	sand (For surface	casing	program)	: 85	0		
Casing and tubing p	-	To	84 = 0	Wad abot	Cando	Bit Sien	
Conductor	TION			METERIC		Bit Size	
Surface	_ 0					12-1/4"	
Intermediate					Constitution		
Production						8-3/4"	
Tubing		5950°	2= <b>7/</b> 8"	6.40	<u>J</u> .	EUE	
Potential Drilling	Hazards None	xpected.	· ·		<del></del>		
Intervals Cores to Method of Drill Ste	m Testing <u>Four</u>	hour te	ests	·			
Method of opening p	ay, perforation o	r open h	ole, and	approxi	mate inte	erval: to be	determined.
Expected Formation	Treatments		· · · · · · · · · · · · · · · · · · ·				
Expected logs for D	evelopment, Evalu lus Gamma Ray-Neu					ogs require	ed by Geologie
Remarks: The pu formation. It i	rpose of this well s not expected to	l is to produce	define t	lie produ	ctive lim	uits of the	<b>Madison</b>
Date AM 20 A. J		Pro	du etilon	Superint	endent X	porta mi	lan ast

How

## GEOLOGICAL PROSPECTUS

Division Billings Lease No. 3554
Operator <u>Surphy Corporation</u> Well Name <u>East Poplar Unit</u> Well No. 76
Location: Section NE SE Section 1 Township 28 North Range 51 East
Pool Name: East Poplar Unit County Roosevelt State Hontana
Type of Well: Oil X Gas Exploratory Development X
Objective Formation Kedison Projected Nepth 5950*
Well Elevation: 2160' Gr. (Est.)
Expected Stratigraphic Section and Estimated Depths:
Judith River
Anticipated Pay Horizons, Not Pay and Expected Depths: None - Purpose of test is to define the productive limits of the field.
Recommended Coring and Formation Testing Program:
Core and Test "A", "B-1", "B-2" and "C" Zones.
Core:
"A" Zone4614-29 "B-1" and "B-2" 7ones 5753-83 "C" Zone 5914-34 Circulate Kibbey and Heath Sands and core on show.
Recommended Sampling and Logging Program:
20' samples from 2000' to 4000'  10' samples from 4000' to T.D.  5" E.S. bottom surface pipe to T.D.  5" E.S. 2000' to T.D.  5" U.L. 2000' to T.D.  25" II.L. 5500' to T.D.

Remarks: (Including pertinent data relative to location accessibility, unusual drilling problems due to surface or subsurface conditions, etc.)

Division Geologist 4/20/56

:		
		EPU #7/2 perts compared for EPU #41 perts
	<u> </u>	
		FPU #76 FPU #11
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H	Incs	B-2+3 B-4
· E	Perfe	5=79-70, 5596.5, 5597.5, 5590-92 5393-98
,		5585-86'
-		1
_	Sub Sca	-3432 to -3446 -3326
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-	3a	
i	\	Note: The formation that was perforated in
•		FPU #111 was not even considered in EPU #76.
		1)
		The corresponding formation in FPU The appears
		to be butter developed in the than in the
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```
ocation: C NE SE Sec. 1-T28N-R53E
        Spacing - 160 acres
llevation: 2158 K.B. - 2146 Gr.
bebbuck
           5-5-56
ompleted: 5-29-56
           5916' Drlr = 5917 Schl.
.D.:
rod. Zones: B-1 5736-5741'
           Schlumberger Tops
                                 Thickness
              Depth
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udith River
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reenhorn
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-2 **\*5900** -3742 \*\*Probable prod. Zones (From DST structural position, etc.

-3733

131

\*Shows

-1

Drill Pipe Corrections (Made) 4555 Driller = 4550 SLM (-5')

**\***5891

Coring Intervals:

#1 5595~5625 Rec. 27' A-3 & L #2 5727-5775 Roc。山:B-1 & 2 #3 5890-5906 Rec. 13' C→1 & 2

Drill Stem Tests: DST #1 5007-5025 A-3 & 4. Hall. sngle pkr, 1/2" bot cke. Tool opn 3 hrs. 5 min. SI 30 min. Opnd w/strng blow, gas to surf, 2 hrs. 45 min, flwd oil to surf 3 hrs, to pit 5 min. Rec. 150' cln oil, 180' o & g cut mud, 5277' salt sulf w/tr oil. IBHFP 90, FBHFP 2600, EHSIP 2850, Hydro 3185. DST #2 5590-5604 B-3. Hall, strad, pkr, 3" bot, cke. Tool opn 4 hrs, SI 30 min. Tool opnd w/strng blo 2 hrs 30 min, decred to w. blo rest of test. Rec. 180' gas, 990' cln oil, 180' salt sulf wtr. IEHFP 35#, FBHFP 352#, BHSIP 2850#, Hydro 3242#, clock stopped in bot. bomb. Fluid recovery indicated pkr held o.k. DST #3 5731-5741 B-1 strad. test, 3" bot. cke. Tool opn 6' off bot., pkr failed, filled up apprx 1500' drl pipe, reset tool after working pipe to bot., tool opn 4 hrs SI 30 min, incred to med blo under 6" of wtr 2 hrs 45 min. decred to weak blo rest of test. Rec. 2070; o & g cut mud, 180; muddy oil, 30' cln oil, 120' salt sulf wtr (rec incl 1500' mud lost in drl pipe) IBHFP 870#, FBHFP 1328#, BHSIP 2540#, Hydro 3298#. DST # $l_1$  5767-5775 B-3. Hall. test  $\frac{1}{2}$ " bot. cke, tool opn  $l_1$  hrs, SI 30 min, tool opnd w/w. blo, cont'd thruout. Rec. 540' s.w., no show, IEHFP 15, FBHFP 265, BHSIP 2598, Hydro 3298. DST #5 5748-66' B-2. Hall. test, 3" bot cke, tool opn 4 hrs SI 30 min, opnd W/strng blo, cont'd thruout, Rec. 5235' salt sulf wtr, no show. IBHFP 62#, FBHFP 2455, BHSIP 2595, Hydro 3298, Bottom pkr o.k. DST #6 re-ran 5889.5-5906 C-1 dble pkrs, 8 3/4" hole, 3/4" bot. cke, tool opn 4 hrs, SI 30 mln, opnd w/w. blo, cont thruout. Rec. 4914' muddy salt & .sulf wtr w/sli tr. oil. IBHFP 700, FBHFP 2465 BHSIP 2965 Hydro 3170, reamed

History Subsequent to Completion: None

EAST POPLAR UNIT #76

hole & drld 10'.

ROOSEVELT COUMTY, MONTANA

#### COMPLETION DATA

CASING: Ran 33 jts. (1071,66°) of 9-5/8°, 32.30%, H-40, and 36%, J-55.8 rd. thd., ST&C, R-2, Class "A" American casing. Top joint only was 35%, J-55 casing. Landed 11.50° below RKB at 1083.16°. Ran Howco float shoe on bottom and one Howco centralizer at 1065°. Comented with 400 secks of regular cement with 2 percent CaCl2. Bumped plug with 800% at 12:30 P.M., 5-6-56. Released pressure, float held ok. Circulated approximately 75 sacks of clean cement to surface.

Ran 183 jts. (5606°) of 5-1/2", 15.50#, J-55, ST&C, 3rd. thd., American class "A" casing. Landed 10° below RKB ant set 1 foot off bottom at 5916°. Ran 5 Weatherford centralizers at 5896, 5778, 5732, 5630, and 5574. Ran 48 scratchers from 5532 to 5916. Reciprocated pipe 40° while circulating 30 minutes and cementing. Ran Howco differential fillup shoe on bottom and Howco baffle collar at 5880°. Cemented with 300 sacks of Slo-set cement with 2 percent gel. Full returns throughout job. Bumped plug with 1500 psi at 5:25 P.M., 5-25-56. Released presesure, float held ok. Set slips.

COMPLETION: Released rig at 11:00 P.M., 5-25-56. Moved in pulling unit to complete. Ran Schlumberger Gamma Ray-Neutron and Collar log. Ran Baker junk basket and gauge ring. Set Baker Model "D" production packer on Schlumberger wireline, top of packer at 5720°. Ran tubing with Baker latch-on sub, seal unit and 15° of tail pipe. Latched on to production packer and tested casing and head with 2000# psi, no leaks indicated. Also checked packer, held ok.

Perforated "B-1" Zone 5736°-5741° with Schlumberger's 1-11/16" expendable tubing gun, 5 shots per foot. Acidized "B-1" Zone with 1000 galatons of Dovell etching acid. Formation broke at 1800# psi. Pressure gradually increased to 2200#. Injection rate .8 BPM at 2200#, bleed down pressure 1800#. Opened to pit at 5:53 P.M., flowed 17 minutes and died. Swabbed spent acid with muddy color. Swabbed for approximately 1 hour after spent acid was recovered. Swabbed approximately 25 BFPH, 90% oil and 10% water, fluid level 2200°. Swabbed 9 hours at the rate of 169 barrels fluid, 23% water (131 barrels oil, 38 barrels water). Last 2 hours, swab rate was 16 BFPH, 25% water (12 BOPH, 4 BWPH), fluid level 3500°.

Ran bottom hole pressure on "B=1" Zone perforation 5736" 5741", shut in 41 hours. Static bottom hole pressure extrapolated to datum at -3600" equals 2490# psi. Bottom hole temperature at 5658", 236 degrees F, top tubing pressure 518#, water at 5600" (field calculated, subject to correction).

#### Ran 2-3/8, 4,70#, 8rd, thd, J-55, American tubing as follows:

187 joints	5666,28
1 sub	10,12
Top joint	30,44
Below RKB	8.40
Seating nipple	1,10
Perforating nipple	3,10
Latch-on sub	ં <b>,5</b> ∂
Top of Baker Model "D" Prod.	Packer5720,00
Seal assembly	2,78
Stinger	15,00
Bottom of tubing	5737,78

Moved in pumping unit; Filled flow line and flowed 32 BFFD, 5% water (30 BOPD, 2 BWPD). Tubing loaded with water.

#### Pump tested as follows:

```
6-17-568 Pumped with 1-1/2" insert pump spaced at 3500%, 64" stroke,
        16 SM. Pumped at the rate of 292 BFPD, 22% water (228 BOPD,
        64 BWPD)
```

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6-18-56: Pumped 292 BFPD, 16% water (245 BOPD, 47 BWPD), 5-19-56: Pumped 259 BFPD, 19% water (210 BOPD, 49 BWPD), 6-20-56: Pumped 228 FFPD, 20% water (182 BOPD, 46 BWPD).
```

6-22-56: No test.

6-23-56: Pumped 178 BFPD, 24% water (135 BOPD, 43 BNPD).

6-24-56: No test.

6-25-56: Pumped 195 BFPD, 19% water (158 BOPD, 37 BWPD), initial potential.

<sup>6-21-56:</sup> Pumped 211 BFPD, 19% water (171 BOPD, 40 BWPD).

#### ELECTRO LOG DATA

# TYPE OF LOG Schlumberger Electrical Survey 2" Schlumberger Electrical Survey 5" Schlumberger Microlog 5" Schlumberger Microlog 25" Schlumberger Garma Ray-Neutron Schlumberger Perforating Record INTERVAL LOGGED 1081'-5916' 2000'-5916' 2000'-5914' 5500-5914' 5500'-5873' 5736'-5741'

#### LOG TOPS

		<del></del>	
	Depth	Datum	Thickness
Eagle	1194	+ 964	,
Niobrara	2054	+ 104	
Greenhorn	2420	<b>-</b> 262	
Graneros	2613	- 455	
Muddy	<b>2</b> 978	<b>-</b> ∞ 820	
Skull Crk	3024	<b>-</b> 866	
Dakota	3200	-1042	
Morrison	3540	-1382	
Swift	3640	-1482 ?	
Vanguard	3954	<b>-</b> 1796	
Rierdon	4150	<del>-</del> 1992	•
Piper Sh	4320	-2162	
Piper Ls	4398	-2240	
Gypsum Sprgs	1,1,55	<b>-</b> 2297	
Spearfish	4650	-2735	
Amsden	<u>4</u> 7 <b>8</b> 6	-2628	
Heath	1.923	<b>-</b> 2765	
Otter	5086	-2928	
Kibbey Sd	5228	<del>-</del> 3070	
Kibbey Ls	5388	<del>-</del> 3230	
Madison	5490	<b>-</b> 3332	٠.,
A-l	5564	-3406	51
A <b>~</b> 2	5578	-3420	3!
A-3	5590	-3432	11,1
A-4	5618	-3460	231
B-1	5736	-3578	91
B-2	5754	-3596	16'
B-3	5776	<b>~3618</b>	61
B-4	5809	-3651	<u>1</u> 1
B-5	5848	<b>-</b> 3690	?
C-1	5891	<del>-</del> 3733	70
C-2	5900	-3742	13'

## DRILL STEM TESTS

- D.S.T. #1: 5607'-5625°, Halliburton single packer test, 1/2" bottom choke, no water cushion. Tool open 3 hours 5 minutes, closed 30 minutes. Tool opened with strong blow, gas to surface in 2 hours 45 minutes, flowed oil to surface 3 hours, flowed to pit 5 minutes. Recovered 150° clean oil, 180° oil-and-gas-cut mid, and 5277° salt sulphur water with trace of oil. IBHFP-90#, FEHFP-2600#, BHSIP-2850#, Hydro-3185#.
- D.S.T. #2: 5590°-5604°, Halliburton straddle packer test, 1/2" bottom choke, no water cushion. Tool open 4 hours, closed 30 minutes. Tool opened with good strong blow for 2 hours and 30 minutes, decreased to weak blow rest of test. Recovered 1800° gas, 990° of clean oil, 180° salty sulphur water. IBHFP-35#, FBHFP-352#, BHSIP-2850#, Hydro-3242#. Clock stopped in bottom bomb. Fluid recovery indicated packer held ok.
- D.S.T. #3: 5731°-5741° ("B-1" Zone), Halliburton straddle packer test, 1/2" bottom choke, no water cushion. Tool open 6" off bottom, packer failed and filled up approximately 1500° of drill pipe. Reset tool after working pipe to bottom. Tool open 4 hours, closed 30 minutes, increased to medium blow under 6" of water for 2 hours 45 minutes, decreased to weak blow rest of test. Recovered 2070° oil-and-gas-cut mud, 180° muddy oil, 30° clean oil, and 120° salty sulphur water (recovery includes 1500° of mud lost in drill pipe). IBHFP-870#, FBHFP-1328#, BHSIP-2540#, Hydro-3298#.
- D.S.T. #4: 5767° 5775° "B=3" Zone), Halliburton test, 1/2" bottom choke, no water cushion. Tool open 4 hours, closed 30 minutes. Tool opened with weak blow, continued throughout test. Recovered 540° of salt water, no show. IBHFP=15#, FBHFP=265#, BHSIP=2598#, Hydro=3298#.
- D.S.T. #5: 5748°-5766°, Halliburton test, 1/2" bottom choke, no water cushion.
  Tool open 4 hours, closed 90 minutes. Tool opened with strong
  blow, continued throughout test. Recovered 5235° of salty sulphur water, no show. IBHFP--62#, FBHFP--2455#, BHSIP--2595#;
  Hydro--3298#; bottom packer held ok.
- D.S.T. #6: 5891.5°-5906°, Johnston single packer test, 8-3/4" hole, packer (Misrum) failed to hold, misrum.
- D.S.T. #6: 5889.5% 5906%, double packers, 8-3/4% hole, 3/4% bottom choke, (Reran)

  no water cushion. Tool open 4 hours, shut in 30 minutes. Tool opened with good blow and remained same throughout test. Recovered 4914% of slightly muddy salt and sulphur water with slight trace of oil, IBHFP-700#, FBHFP-2485#, BHSIP-2965#, Hydro-3170#.

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8-2 Entlant poor

## CORE ANALYSIS REPORTS

Company MURPHY CORPORA	ATION Date		b No. 2653 Poplar Count	-		76 Location		
Sample Interval No. Feet	Footage	Max.	PERMEA 90°			Total Porosity Per Cent	SATURAT % PORE S Residual Oil	ION
1 5598-98.9 2 5598.9-99.5 3 5599.5-5600 #4 5600.5-5610 5 5610-11 6 5611-12 7 5612-12.7 8 5612-7-13.3 *9 5613.3-13.7 10 5613.7-14.5 *11 5614.5-14.8 12 5614.8-15.1 *13 5615.1-16.0 14 5616-17 15 5617-18 16 5618-19 17 5619-20 18 5620-21 19 5621-22 20 5622-23 21 5623-24 *22 5624-25 *Plug Analysis. Insuf	0.9 0.6 0.5 0.5 1.0 1.0 0.8 0.3 0.3 0.9 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Core No. 1  O.1  O.1  2.4  1000/ Not Ana  O.1  O.3  O.4  O.1  1000/ 1.1  1.7  2.6  15  130  5.8  22  19  171  e for large co	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 1.7 0.3 6.8 1.5 3.9	t 30	0.1 0.1 0.1	0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555 0.5555	Trace Trace Trace Trace O O Trace O O O O O O O O O O O O O O O O O O O	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 97.4 56.0 79.1 51.7 20.0 69.5 22.8

Page

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# CORE ANALYSIS REPORTS

Samp	le Interval			PERMEABIL	Total Porosity	•	SATURATION % PORE SPACE		
No.		Footage	Max.	90°	:Matrix	Per Cent	Residual O11	Wate	
			Core. No	2 5727•75° Re	covered lili!			!	
	5727-31	4.0	<u>-</u>	B-1 Zone	·· •	-	æ	!	
3	5731-32	1.0	5:0	3:6		12.0	20.5	المنا	
4 . 5	5732-33 5733-34	1.0 1.0	1000 <del>/</del> 5.6	4.9		19.0 13.8	23.8 7.0	32 38	
5	5734-35	1.0	4.1	3.9		5.2	3.8	96	
7	5735-36	1.0	. 6 <b>.1</b>	5.1		6.0	Trace	31	
8	5736-37	1.0 1.0	8.6 17	8.4 11		9.7 15.3	باءو 28 <b>- 1</b>	60	
9. 0	5737-38 5738-39	1.0 1.0	6.0	4.9		10.8	23.5	38	
_	5739-48.5	9.5	•	•	<b>-</b>		. 63	•	
				B=2.Zone					
Ĺ	5748.5-49.5	1.0	0.1	0.1		10.5	6.5	33	
2	5749.5-50.5 5750.5-51.5	1.0 1.0	16 1000/	5.5°	0	16.1 19.0	1.4 10.5	37: 26.	
Ĺ '	5751.5-52.5	1.0		-	13	13.7	14.1	46.	
5 '	5752.5-53.5	1.0	5.7	·· 5.1·		8.2	32.4	63	
6	5753.5-51.5	1.0	-	-	5.6	13.8	17.8	32	
7 8 :	5754•5-55.5 5755:5-56.5	1.0 1.0	9.8 1.6	1.3		8.2 9.7	2.7 9.2	17 39	
9 .	5756.5 <b>-</b> 57.5	1.0	2.7	2.6	l l	ú.6	1.9	.75	
0	5757.5-58.5	1.0	9.8	6.6		11.2	4.3	69	

CORE ANALYSIS REPORTS CONTINUED

N. 12. 15 16 18

Samo	le Interval			PERMEABILI	Total Porosity	SATURATI % PORE SI		
No		Footage	. Max.	90°	Matrix	Per Cent	Residual Oil	Water
41 42 44 45	5758.5-59.5 5759.5-60.5 5760.5-61.5 5761.5-62.5 5762.5-63.5 5763.5-69	1.0 1.0 1.0 1.0 1.0 5.5	5.0 6.1 2.9 6.8 1.6	4.8 2.5 0.3 4.6 1.4	63	11.6 12.3 8.6 12.7 2.2	29.2 24.4 14.7 8.6 Trace	11.2 67.7 56.1 55.6 90.1
46 47	57 <i>6</i> 9 <b>~7</b> 0 5770 <b>~7</b> 1	1.0 1.0	2.4 4.7	B-3 Zone  0.2 4.5  SUMMARY		7.8 16.4	Trace Trace	81.0 100.0
	5731-34 5734-37' 5737-39'	3.0 3.0 2.0	337 6.3 12	B-1 Zone		14.9 7.0 13.1	17.1 կ.կ 25.8	39.60 62.5 35.9
	5748.5-56.5' 5756.5-63.5'	8.0 7.0	131 5.0	B=2 Zone B⇒3 Zone		12.4 10.0	11.8	37.0 64.5
_	יור7-5769	2.0	3.6	272000		12.1	Trace	90.5
	·.		· -					

## CORE DESCRIPTIONS

## Core No. 1 5595 - 56251, recovered 271:

- 2'6" Limestone: dark gray to black, hard, dense, bleeding oil, poor permeability and porosity bottom six inches open vertical fracture, spotted to good fluorescense and cut, oil odor.
- 9'6" Limestone: dark gray, dense, no permaability and porosity, no show, thin black shale partings.
- 6'0" limestone: dark gray, danse, no to peop permeability and porosity, bleeding oil, botter in bottom 3'. Poor to no matrix show, thin hairline fractures.
- 910" Limestone: derk gray-brown, finely crystalline, oclitic with fair inter granular porosity, spotted to good fluorescense and cut, good oil odor and taste entire unit.

#### Core No. 2 5727 - 57750, recovered 44.

- 4'0" Anhydrite: dark gray, dense.
- 8:0" Limestone: dark gray, brown, fine crystalline with good taste and odor, good fluorescense, center 2: hard, dense limestone with fracturing and vugs, fair permeability and porosity, blanding oil line.
- 916" Anhydrite: dark gray, dense.
- 15'0" Limestone: dark gray, brown, finely crystalline with good permeability and porosity; good odor and taste, fair cut, good to spotted fluorescense.
- 516" Limestone: dark gray, dense, numerous hairline fractures, fluorescense and odor on fracture planes, center foot trace of permeability and porosity, spotted golden fluorescense.
  - 2:0" Dolomite: light gray, brown, limy, earthy, fair permeability and porosity; spotted silvery gold fluorescense on open fracture plane, matrix poor fluorescense and cut, fair odor.

#### Core No. 3 5890 - 5606', recovered 13':

- 2'0" Limestone: dark gray, dense.
- 7'0" Limestone: dark gray, dense, one open vertical fracture replaced with calcite, spotted golden fluorescense, no cdor, no matrix show.
- dor, no matrix show.

  Limestone: dark grzy, brown, finely crystalline, earthy, fair to poor permeability and porosity, core completely shattered, oil and sulfur odor on fresh break, spotted golden finorescense on fracture plane, spotted matrix anow.

## эсленения жение положения в 
## MUD PROGRAH SUMMARY

MUD SERVICE CO.

Northern Mud Co.

MUD ADDITIVES AND COST:

•	Surf	ace Hole	· Surfa	ce - T. D.	Total		
Material	Amt.	Cost	· Amt 。	Cost	Amt.	Cost	
Magcobar	<u>.</u> 427	1,207.35	•		427	1,207.35 :	
Magcogel	65	110.80	75	162.48	170	303.28	
Quebracho		• -	64	848.00	64	848.00	
Driscose			16	720.00	16	720.00	
Lime	1	1.80	•.		ı	1.80 .	
Cement ·	7	<b>12.</b> 95 ·	•		7	12.95	
Magcophos ·	1	. 27.50	•		1	27.50	
Caustic Soda			47	634.50	47	634.50	
Total Mid	•	1,390.40		2,364.98	•	3,755.38	
Drayage		123.07		93.55		216.62	
Fed. Tax		3.69	•	2.80		6.49	
TOTAL		1,517.16	•	2,461.33		3,978.49	
	Total Fe	eet Cost	Per	Da <b>ys</b>	Cost P	er ·	
INTE MID COSTS.	Cost D	eld ∴ro	ot	lisad	Door	•	

UNIT MUD COSTS:	Total Cost	Feet Drld.	Cost Per Foot	Da <b>ys</b> Used	Cost Per Day	
Spud - T. D. Spud - Surface Surface - T. D.	3,978.49 1,517.16 2,461.33	5916 1100 4816	.67 1.38 .51	20 1 1/2 18 1/2		

#### MUD PROPERTIES:

Depth	Weight	Viscosity	Water Loss	рH	Remarks			
0 - 750					Water			
750 - 840	10.7	51	•		Set Surface			
840-1100	10.9	· 56 ·		•	tt) II			
1100-4200	•	•			Water			
4200	10.2	33	16.2	13				
4500	10,2	38	13	12.5				
4800	10.2	51	14.6	13				
5100	10.3	55	13.6	13.5				
5400	10.3	<b>4</b> 8	17.6	13				
5700	10.3	51	6, بلا	12.5				
5916	10.3	58	2ء10	12,5	T. D.			

#### SUMMARY:

A 12 1/4" hole was drilled to 1100' and 9 5/8" casing was run and cemented at 1083'. The surface hole was drilled with water to 750'. At this depth the water was cut out to take advantage of native clays to conserve barite; jel and were added to bring the mud weight up to 10.7/gal. to hold gas and water flow from Judith River Sand. The surface hole was 38.13% of the total mud cost.

An 8 3/4" hole was drilled from under surface to a TD of 5916°. At approximately 4200' the native clay and water mud was converted to a high pH (red mud) with additions of caustic and quebracho. Mud weight was controlled from 10.2# to 10.3# per callon with additions of water or barite and the viscometric properties were maintained between 38 and 58 sec/qt with jel, quebracho, and caustic. Driscose was added to control the water loss below 15 cc.

Three cores were taken, six drill stem tests run and the well was completed as a B-1 Zone pumper without difficulty.

## DRI<sup>Ĉ</sup>LLING BIT RECORD

Bit No.	Make	Size	Type	Serial No.	Depth Out
1	Hughes	12 1/4	OSC	Re-run	1100
2	Sec.	8 3/4	S3P	108468	.3360
3	u .	π	<b>s</b> 6 .	124912	3600
Ĭı	n	n	Ħ	112859	4171
5	<b>11</b>	17	n	112857	4508
6	Ħ	. 17	Ħ	120433	4812
7	Ħ	17	'n	120563	4989
· <b>8</b>	11	· n	Ħ	120478	5030
9	Hughes	77	OVIV	85512	5121
10	Sec.	n	MLN	130359	5288
11	n	Ħ	n	130364	5405
12	Hughes	rt .	OVIV	72057	5595
13	11	n	n	71645	5727
14	11	n	11	71649	5890
15	n	11	11	72072	5916 T.D.

## $\underline{\mathtt{T}\ \mathtt{O}\ \mathtt{T}\ \mathtt{C}\ \mathtt{O}} \quad \underline{\mathtt{R}\ \mathtt{E}\ \mathtt{C}\ \mathtt{O}\ \mathtt{R}\ \mathtt{D}}$

Depth Out	Degrees Off
190 190 1946 3303 3620 4524 5020	1/4 1 1 3/4 1/2 1/2
5694	3/4

# Diamond Core Bit Record Christensen Bit No. Z-3145 (6 1/8" x 3 1/2")

Core No.	From	То	Footage			
1 2 3	5595 5 <b>727</b> 5890	5625 5775 5906	30 48 16 94			

											-						
C	A	M	Ð	T	r	D	T	C	~	Ð	т	D	m	T	$\mathbf{a}$	RT	
J	ĸ	1.7	r	u	1.	U	نڌ	J	U	Ιſ	1	г	T	ı	U	14	
_	_	_	_	_	_	_	_	_	_	_	_	_	_			_	

82255	=======	CHILLERAL CONTROL CONT
2000	2080	Shale: light gray, slightly micaceous, trace of fine grained sendstone.
2080	21,20	Shale: light gray, bentontic, traces of buff calcareous specks at top decreasing with depth.
2420		Sample Top Greenhorn
2420	2620	Shale: dark gray, slightly calcareous with tan specks; trace of light gray fine grained sandstone.
2620	2760	Shale: dark brownish gray; above sandstone.
2760	2980	Shale: dark gray; traces of soft, gray siltstone; traces of light gray limestone.
2985		Sample Top Muddy
2980	3070	Sandstone: medium grained, light gray, unconsolidated; above shales.
3040	3200	Shale: dark gray, above sandstone and limy gray siltstone.
3200		Sample Top Dakota
320ö	3280	Sandstone: light gray, fine to medium grained, hard, poor permeability and porosity, no show; dark gray shale and above limy siltstone.
3280	3360	Shale: light to dark gray; gray siltstone; trace of above sendstone.
3360	3480	Sandstone: light gray to white; fine grain, well sorted, hard, no show; black carbonaceous shale.
3480	3560	Shale: black, splintery, traces of white lime; also light gray limy siltstone; trace of above sandstone.
3560	3640	Shale: black, as above; brownish gray silty shale.
<u> 3645</u>		Sample Top Swift
36l <sub>1</sub> 0	3780	Sandstone: medium grained, gray glauconitic, fair permeability and porosity, no show; above black splintery shale; trace buff colored limestone toward base of section; also white siltstone last 40.
3780	3950	Shale: dark gray to black with gray limy siltstone, trace of above sandstone.

	Sample Top Vanguard
f:050	Sandstone: fine grained, gray, fair permeability and porosity, no show; above black shale and siltstone.
71710	Shale: dark gray to black; above sandstone and siltstone.
	Sample Top Rierdon
կ200	Sandstone: fine grained, gray, hard, tight, poor permeability and porosity, no show.
4310	Shale: black, solintery.
	Sample Top Piper
4340	Shale: dark gray, silty; traces of brown, sandy shale.
L <sub>3</sub> 60	Shale: as above with trace of fine grain sandstone, poor permeability and porosity, no show.
7700	Shale: dark gray, splintery; gray siltstone; trace of brown, sandy shale.
	Sample Top Picer Limestone
山50	Shale: as above; trace of buff and pink, earthy limestone.
4510	Shale: dark gray with few reds and browns, trace of anhydrite, white, soft; trace of medium grained sandstone, no show.
4540	Shale: dark gray, sandy; trace of light gray, medium grained, unconsolidated sand, no show.
4590	Limestone: multi-colored, nurples and grays, crypto crystalline, trace of permeability and porosity, no show. Shales, brown and dark gray to black.
4650	Shale: mostly grays and browns; above multi-colored limestone.
	Sample Top Spearfish
4720	Shale: dark red.
4770	Shale: dark gray; traces of red and brown shale.
	Sample Top Amsden
4920	Shale: light gray; pink dolomite, and limestone, fairly porous, no show.
	Sample Top Heath
	11140 1200 1310 1340 1360 1450 1450 1450 14510 14520 14770

O LIANT TO	DESCRIPTION	
SERVIE	THEST REPORTED IN	COUNT ENTERED

01011	13 1350010	
4920	4930	Shale: multi-colored, purple, gray; limestone light gray; traces of anhydrite. Sandstone: light gray to shite and red, fair permeability and porosity, no show, sand grains angular, traces of purple sandstone.
4930	4950	Sændstone: as above; red and black shale.
4950	4980	Shale: brown, red, and black.
4980	.5020	Sandstone: red and purple, hard, medium grained, fair permeability and porosity, no show.
5020	5070	Shale: purple and dark gray; above sand, good trace of white fine grained sandstone.
5075		Sample Top Otter
5070	5120	Shale: multi-colored, reds, black, apple green.
5120	5230	Shale: as above; traces of buff dolomite and white limestone.
<u>5235</u>		Sample Top Kibbey Sandstone.
5230	5260	Sandstone: medium grained, pink and white, hard, tight, poor permeability and porosity, no show. First 10' traces of white anhydrite, and buff siltstone.
5264		Circulated samples Sandstone: red and purple, medium grain, well cemented, good permeability and porosity, no show.
5260	5300	Sandstone: medium grained, red, well rounded and cemented, good permeability and porosity, no show; multi-colored shales.
5300	5320	Shale: red and dark gray; traces of above sandstone.
53,20	5360	Sandstone: medium grained, well rounded, good permeability and porosity, no show.
5360	5380	Shale: red; traces of above sandstone.
<u>5380</u>		Sample Top Kibbey Limostone
5380	. 27100	Limestone: light gray to gray brown, traces of bink, dense, trace of bermeability and porosity in the gray and gray brown; traces of above Kibbey Sandstone.
5400	5430	Shale: red and black; trace of above limestone.
5430	51,60	Sandstone: fine grain, hard, red; trace of colitic limestone, no show.
5460	5480	Shale: dark red and black, sandy; above sandstone and limestone
5485	:	Sample Top Madison

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#### SAMPLE DESCRIPTION CONTINUED

5606

5616

5480 5500 Anhydrite: soft, white; above red shales. 5500 5520 Limestone: dark gray, dense, traces of above anhydrite. 5520 5550 Anhydrite: dark gray, dense; some hard, dense limestone. 5580 5550 Limestone: dark gray, dense, no show. 5580 5595 Anhydrite: hard, dense, light gray. 5595 5625 Core No. 1, cut 30' recovered 27'. 5625 5640 Limestone: dark gray brown, finely crystalline, colitic, fair permeability and porosity, spotted weak fluorescense and poor cut. 5640 5670 Anhydrite: dark gray, dense; dark gray limestone, no show. 5670 5690 Salt 5690 5720 limestone: dark gray, dense; dark gray anhydrite. Salt from 5717 to 20. 5720 5727 Anhydrite: dark gray, dense. 5727 5775 Core No. 2, cut 48', recovered 44'. 5775 5800 Dolomite: as above with dense gray limestone. 5800 5830 Anhydrite: dark gray, dense; traces of above limestone and dolomite. 5880 5830 Limestone: dark gray, dense, no permeability and porosity, no show; soft white and hard, dark gray anhydrite. 5890 5606 Core No. 3, cut 16', recovered 13'.

T.D. 5616 equals Schlumberger 5617.

traces of hard dense gray limestone.

Limestone: dark gray-brown, finely crystalline, earthy, fair permaability and porosity, spotted oil stain, poor show, wet;

#### WORKOVER HISTORY NO. 1

January 30, 1959

Lease and We	ell Number: East Poplar Unit Well No. 76
Field: Eas	st Poplar County: Roosevelt State: Montana
Well Location	on: NE NE Section 1, T28N, R51E
Status Prior	r to Present Job:
Date Comple	ted: May 29, 1956 Date Last Workover: None T.D.: 5917
PBTD: 5874	Producing Zone: "B-1" Zone of Madison Formation
Perforation	5736'-5741' Cumulative Production through December, 1959:
55,236 BO a	nd 23, 669 BW Latest Test: January 26, 1959, pumping 25 BOPD,
38 BWPD	
Justification	on for Workover: to increase oil production and lower water cut.
Summary of 1	Workover:
<b>1-26-5</b> 9	PBTD 587h - Acidized "B-1" Zone perforations (5736-h1) with 1500 gellons HV acid. Spot acid down casing. Injected acid at the rate of 3 BPM at 2600#. 15 minute bleed down pressure 1100#. Let acid set on formation 4 hours. Started pumping.
1-27-59	PBTD 5874 - Pumping, will test today.
1-28-59	PBTD 5874° - On 4 hour test, pumped at the rate of 81 BFPD, 48% water (42 BOPD, 39 BWPD).
<b>1-29-5</b> 9	PBTD 5874 - On 24 hour test, pumped at the rate of 93 BFPD, 39% water (57 BOPD, 36 BWPD). This is the "B-1" Zone workover potential, to drop from report.

#### Recap of Workover:

- 1. Final Perforations: 5736'-5741' (unchanged)
- 2. Final PBTD: 5874 (unchanged)
- 3. Workover Potential: Pumping 93 BFPD, 39% water (57 BOPD, 36 BWPD)
- Lo Geologic Name of Producing Zone: "B-1" Zone of Madison Formation

Results of Workover: Oil production increased from 25 BPD to 57 BPD and water production decreased from 38 BPD to 36 BPD. Workover Successful.

## WORKOVER HISTORY NO. 2

February 4, 1964

WELL LEASE AN	D NUMBER: East Poplar Unit Well No. 76
FIELD: East P	oplar Unit COUNTY: Roosevelt STATE: Montana
WELL LOCATION	: NE NE Section 1, T28N, R51E
•	
STATUS PRIOR	TO PRESENT JOB:
Date Complete	d: May 29, 1956 Date of Last Workover: January 30, 1959
T.D.: 5917'	PBTD: 5874' Producing Zone: B-1 Zone of Madison Formation
Perforations:	5736-5741' Cumulative Production of Present Zone: 91,343 EO.
111,147 BW, L	atest Test: January 2, 1964 - Pumping 59 BFPD, 86% water,
8 BOPD, 51 BW	PD.
JUSTIFICATION	FOR WORKOVER: To increase production
SUMMARY OF WO	RROVER:
2-04-64	PBTD 5874' - Workover No. 2 was to acidize with 2000 gal. of HOWCO CRA-10 acid. Acidized down casing annulus with 2000 gal. Maximum pressure 300# at injection rate of 1 BPM. Pressure vacuum at rate of 1 BPM. Let acid set on formation 2 hours, started well pumping. To test when leveled off.
2-05-64	PBTD 5874' - Acid damaged pump. Attempted to circulate acid out of hole with 100 bbls. oil. Well on vacuum, would not circulate. Wind too high to rig up pulling unit.
2-06-64	PBTD 5874' - Pumping. Pull rods and changed pumps, balls and seats cut out with acid.
2-07-64	PBTD 5874' - Pumping at the rate of 114 BFPD, 79% water, 24 BOPD, 90 BWPD.
2-08-64	PBTD 5874' - Pumping, no test.
2-09-64	PBTD 5874'-Pumping at the rate of 97 BFPD, 85% water, 15 BOPD, 83 BWPD.
2-10-64	PBTD 5874' - Pumping at the rate of 92 BFPD, 84% water 15 BOPD, 77 BWPD. Workover potential, TO DROP FROM REPORT.

#### WORKOVER RESULTS:

DATE ·	ZONE	BFPD	W/C	BOPD	BWPD
1-06-64	B-1	63	89	7	56
2-10-64	B-1	92	84	<u>15</u>	77
		+29	~ 5	+ 8	+21

#### RECAP OF WORKOVER:

1. Final Perforations:

(Unchanged) 5736-5741'

2. Final PBTD:

(Unchanged) 5874'

3. Workover Potential:

Pmpg 92 BFPD, 84% water, (15 BOPD, 77 BWPD)

4. Geological Name of Producing Zone: (unchanged) B-1 of Madison Formation

5. Downhole Equipment:

(Unchanged)

#### REPORT OF TREATING FORMATION WITH B-3-S ACID FOR GYP DEPOSIT

#### EAST POPLAR UNIT NO. 76

6-19-63 EPU #76 PBTD. 5874'.

Treated B-1 Zone perf. (5736' to 41') with 3 bbls.

B-3-S acid mixed in 7 bbls. fresh water. Pumped acid down casing. Maximum pressure was 50% at very end of job. Left well shut in overnight.

#### TREATMENT RESULTS:

DATE	Zone	BFPD	W/C	BWPD	BOPD	REMARKS
6-10-63	B-1	81	84	68	13	Before treatment
6-22-63	B-1	113	80	90	23	After trestment
6-24-63	B-1	108	80	86	22	
6-26-63	B-1	88	80	71	17	
6-27-63	B-1	82	84	69	13	
6-29-63	B-1	85	83	70	15	
7-03-63	B-1	84	78	65	12	

July, 1967-

# EAST POPLAR UNIT NO. 76

	WORNOVER TISIONE PND D
Lease and	Well Number: East Poplar Unit No. 76
Field: Eas	ot Poplar Unit County: Roosevelt State: Hontana
Well Local	tion: UE SE Section 1. T28W, R51E
STATUS PR	IOR TO PRESENT JOB:
Date Comp	leted: May 29, 1955 Date Lest Workover: February, 1964
Producing	Zone: B-1 (Nadison) Perforations: 5736-5741
T.D.: 59	917' PETD: 5874' Cumulative Production: 102,650 BO 187,629 BV
JUSTIFICA	TION FOR WORKOVER:
BOPD (une Perforate 5580-78' holes per	rom the B-1 Zone. Tested July 11, 1967 63 BPPD 90% W.C. 57 BWPD 6 conomical). Sat bridge plug on W.L. at 5650'. Fill hole with salt water. A-3 Zone 5597.5' (fracture), 5596.5' (1'), 5592-90 (2') and A-2 Zone (2') G & N Log measurement with Lane Wells NCF - 11 Jet Casing Gun, 4 foot. Pump Test. Expected production 15-20 BOPD 100-150 BWPD.
SULPHET OF	WORKOVER:
7 <b>-</b> 18-67	5652' PBTD Prep. to perforate A-3 Zone and A-2 Zone. Moved in and rigged up pulling unit. Pulled rods and tubing. Ran Lane Wells Junk Basket and Gauge Ring to 5690'. Set Johnson WASP CIBP on wireline at 5660' with 1 sack cement on top. Filled hole with salt water Let set overnight.
7-19-67	5652' PBTD Perforated A-3 Zone at 5596.5', 5597.5', 5590-92', and 5585-86', and A-2 Zone at 5508-80' with 4 SPF using Lane Wells NCF - 11 Jet Casing Gun. Ren 2-3/8" tubing with orange peeled joint on bottom. Spaced bottom of tubing at 5600' with seating nipple at 5568' and HOWCO Anchor at 5504'. Ran rods with 1-1/2" bore pump. Started pumping at 3:30 P.M. 7-18-67.

21 bbls. load

16 hr. Test Fumped 103 BF 154 BPPD

Pumping 100% oil this A.M. Gascey

Lack

7-20-57 5652 FBTD Pumping 12½ X 54 X 1½
7 Hr. Test Pumped 9.49 EF 100% Oil equals 32,54 BO in 24 hrs.

Lack 12 bbls. load
Pumping 100% Oil - Pounding Fluid

- 7-21-57 5652 PPTD Fumping Well pumped off. 24 hr. test no production. Putting fluid down annulus. Will have test in A.M..
- 7-22-67 5652' PETD Pump Testing
  Put 35 bbls. of water down annulus. 3 hr. Test 4.07 BO 100% Oil
  equals 32.52 BFPD

Lack 43 bbls, of load

7-23-67 5652' PBTD Fump Testing 22hr. Test 61.01 BF 57% BS%W 35 BW 26.01 BO equals 66.56 EFFD 38 EWPD 29 BOPD

All well head samples are 100% oil,

Recovered all load have 18.01 bbls. of formation oil.

- 7-26-67. 5652 PBTD Pumped off S.I. to pump by heads.
- 7-25-67 5652' PBTD Shut in 24 hrs. then tested 6 hrs. 6 hrs. Pumped 24 bbls. oil no water equals 96 BOPD

  Last 4 hours of above test made 2.70 BO in 4 hrs. equals 16 BOPD
- 7-26-67 5652' PBTD' Pump Testing 6-1/2 hr. Test Pumped 9.46 BO Pumped off last 3 hrs.
- 7-27-67 5652' PBTD Pump Testing
  Well would not pump after shut in 18 hrs. Put 35 bbls. salt water down
  casing. Started pumping. 18 hrs. Pumped 41 BF = 61 BFPD Pumped off
  this A.M..
- 7-28-67 5652' PBTD Pump Testing
  Set test tank at well
  22 hr. Test 5.70 BF 6.24 BFPD (pumped off) No water Some gas.
- 7-29-57. 5652' PBTD Pump Testing Shut In 24 Hrs.
- 7-30-67 5652' PBTD Fump Testing
  Shut In 24 Hrs. Fumped 1 hr. and 15 mins.. Fumped off.
  Made 1.14 BF 100% oil first fluid last fluid 100% water.

- 7-31-67 5652' PBTD Pump Testing
  Shut in 22 hrs.. Pumped 3 hrs. Pumped off. Made 3.42 BF 100% oil at start of test and 100% water at end of test.
- 8-1-67 5652' PETD PumpTesting
  Prep. to wash with soid. Shut in 23 hrs. Pumped 2.28 BF 100% water
  with trace of oil. Pumped off in 1 hr.
- 8-2-67 5552' PETD Fump Testing

  Moved in pulling unit. Pulled rods. Acid washed the A-3 perforations
  5595.5', 5597.5', 5590-92', 5585-86', and A-2 5578-80' with 500 gallons
  Dowell 7-1/2% EDA acid. Filled hole with lease crude. Spotted acid
  on perforations with 600 PSI. Washed and soaked acid 5-10 mins. bypassing 1/2 to 1 bbl. building pressure 100-200 PSI each stage. No bleed
  down. Building to maximum pressure of 1800 PSI. Final bleed down
  1800 PSI to 1600 PSI (200%) 30 mins.. Acid on formation 3 hrs. 10 mins..
  Reversed out partley spent acid. Ran rods with 1-1/2" bore pump.
  Started pumping at 4:30 P.M. 8-1-67.

. Load Cil

92 bbls. <

- S-3-67 5552' PBTD Fump Testing 18 Hr. Test Pumped 99 BO First 15 hrs. Pumped 92 BO Lest 3 hrs. pumped 9 BO Pumped off.
- 8-4-67 5652' PBTD Pump Testing 19 Hr. Test Pumped 2.35 BO No Water = 3 EFPD
- 6-5-67 5652' PBTD Pump Testing Shut in 21 hrs. Pumped 3 hrs. 10 BO 100% Oil.

All load oil recovered + 9 BF

- S-6-67 S652' PBTD Rump Testing Shut in 20 hrs. Pumped 4 hrs. 5 EO 100% Gil.
- 8-7-67 5652' PETD Pump Testing . Pumping by heads. No Test
- 8-8-67 5652' PRTD Pump Testing Shut in 20 hrs. Pumped 4 hrs. 5.42 DO No water
- 8-9-67 5652' PETD Fump Testing
  Shut in 20 hrs. Fumped 4 hrs. 5.70 BF At the start of the test
  100% oil and at the end of test 100% water,
- 8-10-67 5652' PBTD Fump Testing Shut in 22 hrs. 2 hr. Test Fumped off. Made 5.70 BF 98 to 99% water.
- 8-11-67 5652' PBTD Fump Testing
  Frep. to acidise
  Shut in 22 hrs. Pumped 2 hrs. Made 4.56 BF 98% Water Moved in pulling unit. Pulled rods and tabing. Started in hole with Model "R" Packer.

- 8-12-67 5652' PBTD Prep. to Acidize:
  Finished running tubing. Filled hole with oil. Set Baker Model "R"
  packer at 5505' with bottom of tubing at 5602'. Pressured up. Communication indicated tubing leak. Pulled tubing. Changed packer. Hydrotested tubing in hole. Found 2 split joints and 7 collar leaks. Installed BOP. Shut in for night.
- 8-13-67 5652' PETD Pumping load oil.

  Filled hole with oil. Set Baker Model "R" Packer at 5507' with bottom of tubing at 5599'. Tested tubing, casing, and packer, Held OK. Acidized A-Zone perforations at 5596.5', 5597.5', 5590-92', 5585-86', and 5578-80' with 500 gallons Dawell 15% BDA as follows: Spotted acid on perforations. Pressured annulus to 1800%. Built pressure on formation slowly to 2800%. Gradual bleed back to 2590%. Formation started taking acid at 1/4 EPM at 2750% to 2650%. Increased rate to 1/2 EPM. Injected remaining 9 bbls. acid at 1/2 BPM at 3000% to 3300%. ISTP 3200% 5 min. SIP 3075%. Released pressure. Swabbed back tubing volume (22 bbls.) plus approximately 3 bbls. partially spent acid. Swabbed dry (acid on formation 2-1/2 hours before swabbed). Released packer. Ran rods and 1-1/2" bore pump. Started pumping at 3:00 P.M. 8-12-67. In 16 hrs. pumped 92 bbls. load oil. Lack 10 bbls. having annulus capacity recovered.
- 8-14-67 5652' PBTD Pump Testing 1-1/2" X 54" X 12-1/2 SPM
  7 Hr. Test Pumped 11 bbls. oil. Recovered all load oil plus 1 bbl formation oil.
- 5-15-57 5652' PETD Pump Testing
  17 Hr. Test Pumped 25 BF 97% Water = 35 BFPD 1 BOPD 34 BWPD
  Late yesterday 99% water.
- 8-16-57 5652' PETD Pump Testing 24 Hr. Test Pumped 23 bbls. fluid. Trace of oil.
- 8-17-67 5652! PBTD Pump Testing 24 Hr. Test Fumped 17 BFPD 98% Water
- 8-18-67 5652' PBTD Pump Testing S.I. 19½ Hours. Pumped 6½ Hrs. Made 20 BF 98% Water Pumped Off.
- 8-19-67 5652' PBTD Pump Testing Shut in 22 hrs. Pumped 2 hrs. Fumped 9 BF 99% Water.
- 8-20-67 5552' PBTD Pump Testing Shut in 20 hrs. Pumped 11 BF 99% Water
- 8-21-67 5652' PBTD Pump Testing Shut in 4 hrs. Pumped 20 hrs. Pumped 33 BF 100% Water
- 8-22-57 5652' PSTD Pump Testing 24 Hr. Test Pumped 18 BF 100% Water

8-23-67 5652' PETD Fump Testing 24 Hr. Test Pumped 18 BF 100% Water

8-24-67 5652' PBTD Fump Testing "S.I. 20 Hrs. Pumped 4 hrs. Made 14 BF 100% water

8-25-67 5652 PETD Pump Testing S.I. 17 Hrs. Pumped 7 hrs. Made 19 BF 100% Water Initial Potential - A Zone T.A..

#### RECAP OF WORKOVER:

Final Perforations:

5596.5', 5597.5', 5590-92', 5595-86', and 5578-80'.

Final PBTD:

56521

Workover Potential:

7 Hr. Test 19 BF 100% Water

Producing Zone:

A-2 and A-3 Zone.

Workover Unsuccessful.

# YAPUNCICH-SANDERSON LABORATORIES

P. O. BOX 593

55, MONTAHA 5 8 914 N<u>. 251</u>H St.

# WATER ANALYSIS REPORT

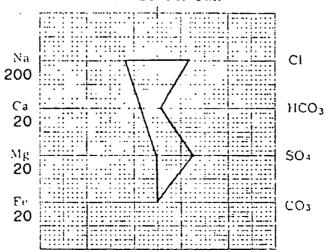
Lab.	No.	 	

Well No.       7         Formation       A         Operator       Mn         DST No.       2         Other Data       To         180'       sal	6 Unit Zone urphy Corp Sample ool open 4 ty sulfur v	hrs. SI 3	Location () Depths 5  O min. Recover 35-352 lbs., Si	Roosevelt State Montana C NE SE 1-28N-51E 5590-5604'  Date Sampled 5-17-56  Date Analyzed 6-1-56  red 1800' gas, 990' oil and IP 2850 lbs. HP 3242 lbs. on bottom.
Constituents	PPM	MEO.	MEQ. %	Total Solids in Parts per Million
Sodium	31,831	1384.56	47.43	By evaporation 87,720
Calcium	1406	70.16	2.40	After ignition 85,480
Magnesium	60	4.93	0.17	Calculated 86,902
Sulfate	7358	153.05	5.24	pH8.2
Chloride	45,772	1290.77	44.22	Specific Gravity @ 60°F 1.063
Carbonate	Trace	Trace	Trace	
Bicarbonate	965	15.83	0.54	Resistivity @ 68°F ohms/meter3 0.11
Chloride as Nat	Ci <u>75</u> ,478	РРМ	Total Solids From	Resistivity as NaCl 82,999 PPM.

NOTE Section, and polarisom reported as set in MEG. But a process per dec. FPM, part for making enginerants per liter. I PPM engineers to 0.00017

## WATER ANALYSIS PATTERN

Scale MEQ. Per Unit



5 & 914 N. 25TH St.

# WATER ANALYSIS REPORT

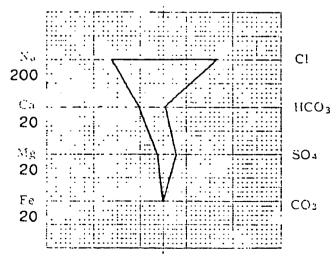
Lab. No. 1098-W

Field <u>E</u>	ast Poplar		County R	oosevelt State	Montana
Well No7	<u>6_Unit</u>		Location C	NE SE 1-28N-51E	
FormationB	-1 Zone		Depths 5'		
Operator M	urphy Corp	orațion		Date Sampled	5-19-56
				Date Analyzed	6-1-56
Other Data To	ool open 4	hrs. SI 30	min. Recover	Date Analyzed ed 2070' oil and	gas cut
mud, 180	' muddy oi	l. 30' clear	oil and 120'	saltv sulfur water	r.
FP 870-1	328 lbs.	SÍP 2540 lbs	HP 3298 1bs	. Sample clear 1:	ght
amber co	lored wate	r with mud o	n bottom. H-S	present.	=D23-V
		e. The Ale and A			
Constituents	PPM	MEQ.	MEQ. %	Total Solids in Pa	rts per Million
·			terica estimate discretical a		
Sodium	50,122	2180.18	47.36	By evaporation	137,280
				Ç i i i i i i i i i i i i i i i i i i i	
Calcium	1980	98.80	2.15	After ignition	133,520
	_	_			
Magnesium	276	22.69	0.49	Calculated	134,706
	-0.0-				
Sulfate	2869	59.68	1.30	<sub>pH</sub> 6.6	
	0		_	•	
Chloride	79,218	2233.95	48.53	Specific Gravity @ 60°F	1.093
	_	_		•	
Carbonate	0	0	0		
			•	Resistivity @ 68°F	0 073
Bicarbonate	490	8.04	0.17	ohms, meter <sup>1</sup> _	0.073
	7.20 6	20			•
Chloride as Nat	CI 130,6.	30 PLAU	Total Solids From R	esistivity as NaCl_133	,340 <sub>PPM</sub> .
					1 1 1/1.

NOTE Softwar and press on the first one added Mary throughout to the Dr. PhM party per motion omiligrams per liters. I PPM equivalent to 0.0001%

## WATER ANALYSIS PATTERN

Scale MEO. Per Unit



# YAPUNCICH-SANDERSON LABORATORIES

P. O. BOX 593

# WATER ANALYSIS REPORT

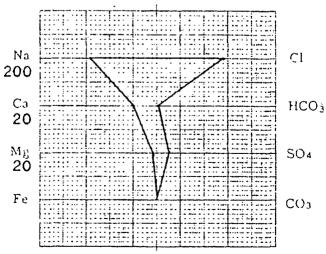
Lab. No. \_

Well No Formation Operator DST No Other Data 15-265	76 Unit B-3 Zone Murphy Cor 4 Sample Tool open lbs., SIP	poration 4 hrs. SI 2598 lbs.,	Location Depths Depths 30 min. Record	Date Sampled 5-20-56  Date Analyzed 6-1-56  vered 540' salt water. FP  Sample clear reddish colored
Constituents	<u> </u>	MEQ.	MEQ. %	Total Solids in Parts per Million
Sodium	64,529	2806.81	48.05	By evaporation 172,760
Calcium	1921	95.86	1.64	After ignition 171,840
Magnesium	216	17.76	0.31	Calculated <u>170,797</u>
Sulfate	2267	47.15	0.81	pH6.4
Chloride	101,712	2868.28	49.11	Specific Gravity@ 60°F 1.115
Carbonate	0	0 .	0	
Bicarbonate	305	5.00	0.08	Resistivity @ 68°F ohms/meter³ 0.060
Chloride as N	aCl 167,72	3PPM.	Total Solids Fron	m Resistivity as NaCl 169,712 PPM.

NOTE Sedium and potassium reported as sedium. MEQ, millieguivalents per liter. PhM, parts per million (milligrams per liter), 1 PPM equivalent to 0.0001%

## WATER ANALYSIS PATTERN

Scale MEQ. Per Unit



5 & 914 N. 25th St

# WATER ANALYSIS REPORT

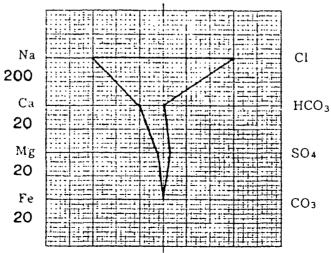
Lab. No. \_\_\_\_\_

	East Poplar		County	Roosevelt State Montana
	76 Unit		Location	C NE SE 1-28N-51E
	3-2 Zone		Depths	_5748 <b>-</b> 5766 <b>·</b>
Operator	Murphy Corpo	ration	• • • • • • • • • • • • • • • • • • • •	Date Sampled
DST No	Sample			Date Analyzed 6-1-56
Other Data	Cool open 4	<u>hrs. SI 3</u>	O min. Recoy	ered 5235! salty sulfur
water.	FP 62-2455	lbs. SIP	<u>2595 lbs., HP</u>	3298 lbs. Sample clear
colorles	ss water wit	h mud on b	ottom. Hos p	resent.
			·	
Constituents	PPM	MEQ.	MEQ. %	Total Solids in Paris per Millio
	(0.010	2020 45	40.00	÷05 040
Sodium	69,210	3010.45	48.08	By evaporation 185,840
a te	2018	100.70	1.61	After ignition 180,160
Calcium	2010	100.10	1.01	After ignition
Magnesium	240	19.73	0.31	Calculated 182,923
Magnesium	- 10	-5015	••5	Calculated
Sulfate	1757	36.55	0.58	pH6.4
J-11010				pn
Chloride	109,536	3088.92	49.33	Specific Gravity® 60°F 1.121
	•	•		Specific Gravity of 1
Carbonate	Q	. 0	0	
				Resistivity @ 68°F
Bicarbonate	330	5.41	0.09	ohms/meter <sup>3</sup> 0.059
	3.00 605			·
Chloride as Na	acı 180,625	PPM.	Total Solids From	n Resistivity as NaCl 182,111 pp

NOTE: Sodium and potassium reported as sodium. MEQ. vinithequivalents per liter. PPM aparts per million imilligrams per liter. I PPM aparts to 0.00010

## WATER ANALYSIS PATTERN

Scale MEQ. Per Unit



# YAPUNCICH, SANDERSON & BROWN LABORATORIES

P. O. BOX 593

BILLINGS, MONTANA

20 N. 3157 ST

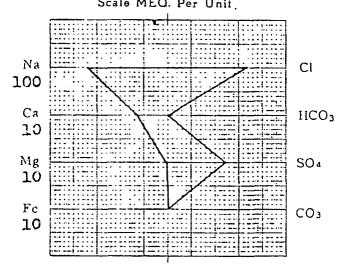
# WATER ANALYSIS REPORT

Lab. No. \_\_\_\_\_

Field E	st Poplar		County			Montana
	Unit			C NE SE 1-2		
	" Zone		Depths			
	rphy Corpor		·			5-24-56
DST No6	Sample	rop of rool	· ;	Date A	Inalyzed	8-8-56
Other DataTo	oi open 4 l	118. SL 3C	min. Recov	<u>ered 4914' в</u>	alty wa	ter,
FP 100-2	405 TDB.	215 5362 JE	B., HP 3170	<u>lbs. Sample</u>	clear	reddish
dolored.	Water. Son	me organic	matter prese	nt.	<del></del>	
<del> </del>					<del></del>	
Constituents	PPM	MEQ.	MEQ. %	Total	Solids in Pa	arts per Million
Sodium	39,934	1737.01	48.17	Ву	evaporation	107,320
Calcium	1326	66.17	1.83	Aft	er ignition	105,600
Magnesium	O	0	0	Cal	culated	106,753
Sulfate	5980	124.38	3.45	.8 Hq	5	·
Chloride	59,409	1675.33	46.45	Specific Gra	ivity@ 60°F	1.074
Carbonate	50	1.67	0.05			
Bicarbonate	110	1.80	0.05	Resistivity ( ohn	@ 68°F ns/meter³_	0.086
Chloride as NaC	97,965	PPM.	Total Solids From	n Resistivity as Na	aCl 103	,686 PPM.

NOTE Sudiam and personation reported as socium. MEQ influequivalents per liter. PPM parts per million infilligrams per liters, 1 PPM equivalent to 0 000111

## WATER ANALYSIS PATTERN



P. O. BOX 593

BILLINGS MONTANA

& 911 N. 2514 St.

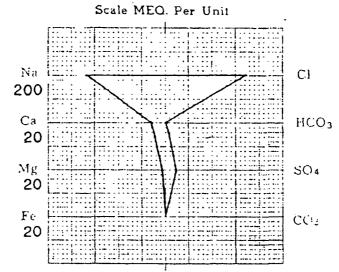
# WATER ANALYSIS REPORT

Lab. No.	
----------	--

	East Popla		County	ROOSEVELT State	Montana
Well No.	6 Unit		Location	C NE SE 1-28N-51E	
Formstian A	Zone		Denths	5607-56251	
Operator	turphy Corp	oration		Date Sampled	
DST No	Sample			Date Analyzed Recovered 150' of	6-1-56
Other_Data¶	ool open	hrs. 5 mir	1. SI 30 min.	Recovered 150' of	1. 180'
_oil and	gas cut m	<u>id and 5277'</u>	salty sulfur	water. FP 90-2600	) lbs.,
SIP 2850	lbs., HP	<u> 3185 lba.  </u>	Sample clear	colorless water wit	th mud on
bottom.					
Constituents	PPM	MEQ.	MEQ. %	Total Solids in P	aris per Million
Sodium	77,446	3368.67	48.88	By evaporatio	203,300
Calcium	1267	63.22	0.92	After ignition	201,500
Magnesium	168	13.81	0.20	Calculated	201,638
Sulfate	2288	47.59	0.69	<sub>pH</sub> 6.0	
Chloride	120,294	3392.29	49.22	Specific Gravity® 60°I	1.131
Carbonate	0	0	0	Resistivity @ 68°F	
Bicarbonate	355	5.82	0.09	ohms/meter1_	0.055
Chloride as Na	CI 198,365	5PPM.	Total Solids Fron	Resistivity as NaCl200	,520 PPM.

NOTE Sodium and primasium regorded as source. MEQ anticequivments per liber. PPM : per million smilligrams per liter. I PPM equivalent to 0 0001%

## WATER ANALYSIS PATTERN



PRODUCTION & INJECTION DATA

#### (SUBMIT IN QUADRUPLICATE)

TO

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

#### OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill	Subsequent Report of Water Shut-off & 7 . 401
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing Cementing
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing	Supplementary Well History
Notice of Intention to Abandon Well .	Report of Fracturing

July 27 19 76 Following is a notice of intention to do work on land leased described as follows: LEASE East Poplar Unit No. 76 Roosevelt **Bast Poplar Unit** .....MONTANA..... (State) HE SE Section 1 (Township) (Range) (Meridian) ....ft. from line and 660 ft. from line of Sec. 1 LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY The elevation of the derrick floor above the sea level is...... READ CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

#### DETAILS OF WORK RESULT

It is proposed to plug and abandon this well as follows:

Set a bridge plug with wireline at 4700' with a 100' cement plug on top. Cut 5-1/2" casing off at approximately 3600' and set a 50 sack cement plug at top of casing stub.

Set a 100' cement plug at the top of the Dakota Sand, 3200'. Set a 100' cement plug (50' in and 50' out) at bottom of 9-5/8" surface casing. Set a 10' cement plug at top of surface casing. The surface casing will be cut off 4' below ground level and a steel cap welded on top of the 9-5/8" casing. No dry hole marker is to be erected.

Approved subject to conditions on reverse of form	Company MURPHY OIL CORPORATION ORIGINAL SIGNED BY BILLY, G. MELEAR
Date AUG 4 1976 ORIGINAL COPY SIGNED BY:	By BILLY G. MELEAR
By Claire F. Haughey, Field Supervisor  District Office Agent Title	Title District Superintendent
District Office Agent Title	Address P.Q. Box 547, Poplar, Montana 59255

COMMISSION USE ONLY API WELL NUMBER STATE COUNTY WELL

NOTE:-Reports on this form to be submitted to the District Agent for Approval in Quadruplicate

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.

EPU # 76

GENERAL RULES 201, 202, 213, 216, 219, 233.1

(SUBMIT IN QUADRUPLICATE)

TO, Andrew St. Co., San Service Services

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

#### OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA **BILLINGS OR SHELBY**

SUNDRY NUTICE:	S AND REPORT OF WELLS
Notice of Intention to Drill	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans	Subsequent Report of Shasting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	Subsequent Report of Alfering Casing
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment
Notice of Intention to Puli or Alter Casing	Supplementary Well History
Notice of Intention to Abandon Well	Report of Fracturing

Notice of Intent	ion to Change Plans	Subsequent Report of Si	ngeting, Acidizing, Cementi	ng had		
Notice of Intent	ion to Test Water Shut-off	Subsequent Report of	Altering Casing			
Notice of Intention to Redrill or Repair Well		Subsequent Report of Regulling or Repair				
Notice of Intent	ion to Shoot, Acidize, or Cement	Subsequent Report of		X		
Notice of Intent	ion to Puli or Alter: Casing	Supplementary Well H	Istory (C/)	<u> </u>		
Notice of Intent	ion to Abandon Well	Report of Fracturing	ल्हण शर एंड			
				· · · · · · · · · · · · · · · · · · ·		
<u> </u>	(Indicate Above by Check	Mark Nature of Report, Notice, or	Other Data)			
	(indicate Above by Check		· September 2	8 <sub>19</sub> 76		
				, 19		
ollowing is a	THE STATE OF THE STATE OF	n land   described	as follows:			
repor	rt of work done		Kast Poplar Un	it No. 76		
MON	ITANA	Rossevelt	Rast Popl	ar Unit		
(:	State)	(County)	(	Field)		
Well No. 76	MX SE Section 1 (m. sec.)	T28#	R51E	MPK		
	(m. sec.)  1982 ft. from { XXX } {			(Meridian)		
The elevation of the READ CAREFULLY (State names of and	expected depths to objective sands I other important proposed work, pa	2146 G.L.  LS OF PLAN OF WORK  s; show size, weights, and lengths	RI proposed casings in	EAD CAREFÜLLY		
This well was	plugged and abandoned	as follows:				
was cut off a A 100' cement plug was set	was set at 4700' with t 3644' and a 50 sack of plug was set at the to in the bottom of the 9-was set at the top of the	sement plug was set at op of the Dakota Sand a -5/8" surface casing, l	the top of the c it 3200'. A 100' ./2 in and 1/2 ou	cement t. A 10'		
Ho dry hole w	ground level and a stee arker is to be erected	on this location.	the 9-5/8" surf	sce casing.		
		. A. a. I. L	76			

Surface	restoration	should be	econleted	by Hovember	1. 1976
200	2 44 6 44 46 446		CARRIER	A 1 MAAAMAA	A

Approved subject to conditions on reverse of form	Company Murphy 011 Corporation
Date JUN 2 3 1982 ORIGINAL COPY SIGNED BY:	ORIGINAL SIGNED BY By BILLY G. MELEAR
ByClaire F. Haughey, Field Supervisor.  District Office Agent  Title	Title District Superintendent
MEDICATION INSPECTED & APPROVED	Address P.O. Box 547; Poplar, Montana 5925

COMMISSION USE ONLY AP! WELL NUMBER STATE COUNTY

NOTE:-Reports on this form to be submitted to the District Agent for Approval in Quadruplicate

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.